

LCA Standards for Service Delivery



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PURPOSE OF THE STANDARDS

The standards set out the minimum requirements for the delivery of the services listed below related to the control of legionella bacteria in water systems. The standards together with this guide should be read in conjunction with the LCA Buyer's Guide (*LCA/BYG*). All these standards can be downloaded from the LCA website www.legionellacontrol.org.uk.

It is not the role of the LCA or these standards to prescribe particular techniques or technologies for the control of legionella bacteria in a risk system, however, whatever method is employed, the overall programme should be capable of delivering the desired outcomes. These outcomes may be dependent on the nature of the water, the system being treated, the service user's expectations and performance specification, if any.

LCA STANDARDS

- Legionella Risk Assessment Services
- Water Treatment Services
- Hot and Cold Water Monitoring and Inspection Services
- Cleaning and Disinfection Services
- Independent Consultancy Services
- Training Services
- Legionella Analytical Services
- Plant and Equipment Services
- Facilities Management Services

Each standard contains the following sections:

A) SCOPE OF SERVICE DELIVERY

This section contains a definition of the service provided and sets out the extent and limits of each service in such a way as to be flexible enough to accommodate legitimate variation and exacting enough to ensure the service is sound.

B) KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

The service providers should confirm and be able to prove to others that all members of their staff are competent to carry out the required tasks.

In cases where the service delivery may involve a number of skill areas, e.g., surveyor, technician, chemist, etc., these are identified in each standard. The level of knowledge and skill required to carry out different aspects of the services may vary and the service provider should identify the knowledge and skills required for the relevant task, provide appropriate training and assess the competence of the operatives to carry out assigned tasks.

Guidance regarding the knowledge and skills required to carry out specific tasks is outlined in the LCA Knowledge and Skills Matrix (*LCA/MAT*).

In addition, the service provider staff attending site should have general health and safety awareness and capability appropriate to the tasks being undertaken. They should have the ability to carry out their work in a safe, efficient and effective manner and have knowledge of: carrying out pre-work safety checks/work-task risk assessments; PPE, its role and uses; portable appliance inspection; confined space entry; lone working ability and awareness; safe use of ladders and steps; procedures for permit to work; and health and safety requirements for asbestos, and other health and safety matters, where relevant.

The service provider company, as required by the LCA, should maintain training records and separate competence assessment records for individuals for each task they perform in delivering the services. These should be made available to the service user on request.

Information on understanding competence, and how to develop and assess it, is described in the LCA Competence Guide (*LCA/COM*).

C) SERVICE DELIVERY

To enable the service provider company to deliver the specific legionella control service in an appropriate and safe manner, the LCA expects the company to have in place procedures to cover and manage the following (where applicable):

- Defining the scope of service
- System survey (information acquisition)
- Programme design
- Programme initiation, execution and management

D) SERVICE USER: DUTIES AND RESPONSIBILITIES

This section details the service user commitments and responsibilities regarding the delivery of the specific services by the service provider. There are certain issues that the service user should address that apply to all services offered. The service user should:

- provide a copy of any existing legionella risk assessment, details of control targets, e.g., temperatures, biocide levels, the written scheme including escalation procedures, written control schemes/procedures, etc.
- provide notification and any necessary instruction on known risks and safety requirements in the areas the service provider will be working, e.g., access to the asbestos register, site induction, etc.
- provide safe access and egress
- provide contacts for communication and escalation

LCA STANDARD FOR THE DELIVERY OF LEGIONELLA RISK ASSESSMENT SERVICES

A) SCOPE OF SERVICE DELIVERY

This service standard is for those providing risk identification, assessment and review services related to the risk of exposure to legionella bacteria from work activities associated with all water systems together with risk control and/or reduction and required control measures.

The legionella risk assessment carried out by the service provider will cover those systems that the service provider is contracted to assess. It should state clearly the limitations of the assessment, i.e., the systems that are knowingly not included. Where systems have knowingly been excluded from the risk assessment, there should be a statement that a complete legionella risk assessment should include the assessment of all systems where water is stored or used in premises controlled in connection with trade, business or other undertaking. (See L8 para 25.)

B) KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

The competence of the assessor is of paramount importance and should be matched to the system being assessed.

Assessors should be able to demonstrate that they have specialist knowledge of legionella bacteria and of the water system(s) to be assessed and that they are competent to carry out any necessary surveys and sampling.

In addition, assessors should have undertaken the necessary practical training and gained experience with a competent assessor to be able to assess the systems described below.

1. Hot and cold water systems: These include but are not limited to: water supply arrangements, hot and cold water services, etc. When carrying out assessments of complex systems and/or in premises with elevated susceptibility the assessor should have an appropriate level of competence.

2. Evaporative cooling systems: These include but are not limited to systems containing: cooling towers, evaporative condensers, dry/wet cooling systems, plume abatement cooling towers, humidifiers, softeners, etc. Assessors should have additional knowledge, experience and/or training in designing and managing an appropriate water treatment programme as well as in the assessment of water treatment/control programmes, water testing and monitoring, water chemistry and treatment theory, pack inspection techniques and condition appraisal, cleaning techniques available, and, where they are applicable, the impact of these techniques on plant, equipment and the environment and special precautions that may be required.

3. Other systems: These include but are not limited to: swimming pools, spa and hydrotherapy pools, vehicle wash systems, misting systems, leisure and ornamental water features, engineering and machining systems, paint prep systems, fume scrubbers, fire and deluge systems, hose pipe and sprinkler systems, water bowsers, pressure washers, dentistry equipment, emergency showers, rain water harvesters/grey water, etc. Risk assessments of these systems may require the assessor to use a first principles approach. Assessors should therefore have a level of competence appropriate to the type of system being assessed including: water chemistry, treatment and testing, applicable inspection and condition appraisal techniques, cleaning methodologies, etc. Since there is such a wide variety of other systems, it can be highly beneficial to the assessor to have the availability of someone (usually an employee of the service user) with intimate working knowledge of the system being assessed.

Please refer to Section C below and the Guide to the LCA Standards for Service Delivery at the beginning of this document.

C) SERVICE DELIVERY

To enable the Service Provider to deliver legionella risk assessment services in an appropriate and safe manner the LCA expects the company to have in place procedures to cover and manage the following:

1. Definition of scope:

Detailed clarification of the scope of the services to be supplied is required and should include:

- the premises and/or buildings to be encompassed by the assessment
- the identification of the systems to be assessed and any that are knowingly excluded
- the requirements regarding schematic diagrams and asset registers and their format/standard

(See BSRIA Guide 'Legionnaires' Disease - Risk Assessment (BG 57/2015) Section 2.4, WMSoc 'Guide to Risk Assessment for Water Services' Section 2.5, BS8580:2010 'Water quality - Risk assessments for Legionella control - Code of practice' Annex H and HSE 'Legionnaires' disease: The control of legionella bacteria in water systems (L8) Para. 40.)

(**NB:** If schematic diagrams and asset registers already exist they may be accurately referenced and verified during the assessment. If they do not exist for identified risk systems, details of how they will be produced should be agreed with the service user. L8 paras 38-40 indicate that schematic diagrams and asset registers are produced to help the person who carries out the risk assessment. If they are absent or not up to date this will be detailed in the corrective actions as a requirement.)

- specific site safety and/or other requirements, e.g., induction training, etc.
- the necessary access to the site to be surveyed and the presence of a competent escort who is familiar with the site and the system(s) to be assessed and who will be responsible for the assessor's health and safety.
- the components of, or input into, the written scheme to be produced or supplied by the assessor in addition to the risk evaluation, control measures and corrective actions
- presentation of the final assessment, e.g., electronic format, hard copy, number of copies, etc.
- the name of the person who will receive the risk assessment
- a defined agreement between both parties defining the scope of the risk assessment, referencing the agreed level of detail in, and format of, for example, schematic diagrams, asset registers, photographs, etc., where applicable

2. Initiation

The service provider should provide details of the preparatory work required including:

- pre-work risk assessment
- equipment check lists
- verification by the service provider of the assessor's competence to carry out the specific system assessments and associated tasks

3. The assessment

The service provider should ensure that (subject to scope):

- all required systems are identified and inspected
- the systems identified as presenting a risk all proceed to full assessment during which previous risk assessments are reviewed
- schematic diagrams and asset registers of these systems are available or are produced (see NB below)
- the condition of system water and accessible equipment is determined, and the contribution to risk made by the design, construction and operation of the system and equipment is evaluated (condition surveys)

The service provider should also ensure that the written scheme is reviewed including:

- the effectiveness of the control scheme
- the maintenance history of the systems
- history of past problems
- monitoring and inspection records for the systems and significant deviations from acceptable operating conditions
- the ability of management to maintain control of the risk of legionella
- the competence of site staff and contractors to control the risk of legionella

(**NB:** For further information refer to L8 & HSG274 and BS8580.)

In the absence of an up-to-date schematic diagram the risk assessor may judge that there is sufficient information to complete and issue a risk assessment, and full reasons for this decision should be given in the assessment. The risk assessor may produce diagrams during the site survey in order to assist in understanding the system and explaining the findings of the assessment. These may not meet the requirements of L8 para 40 and the written scheme where full system schematic diagrams are needed.

4. Reporting

The service provider should ensure that the content and output of the assessment, subject to the agreed scope, will contain the following:

- executive summary, if required (optional)
- scope of assessment, including clear identification of buildings' systems and their use
- identification of key personnel, both staff and contractors, and their competence (Ref. BS8580)
- identification of the risk systems
- schematic diagrams or reference to them (see NB in Section 3 above)

- results of condition surveys including operating parameters, temperatures, system inspections and asset registers
- review of written scheme
- analysis and evaluation of risk for each system including an explanation of how the risk rating is derived
- recommended and prioritised corrective actions to eliminate or reduce the risk
- the site and system specific control measures (monitoring, inspection and treatment, etc.) including identification of sentinel outlets and/or other sample and inspection points
 - short term control measures to be applied until completion of corrective actions
 - long term control measures to be applied following completion of corrective actions
- precautions to be taken when testing, maintaining or operating low risk systems, such as fire systems, heating and chilled water systems, etc.
- next review date
- a recommendation to establish under what circumstances a review of the assessment will be required
- limitations of the assessment
- guidance re emergency procedures
- matters or areas of evident concern beyond the scope of the assessment
- sources of reference and guidance utilised, e.g., bibliography
- clear identification of the assessor, their experience and qualification
- evidence that the assessment has been reviewed prior to issue and signed by the reviewer prior to issue

The risk assessment does not involve the preparation of the written scheme of control, but it does provide information that is critical to its preparation in the form of recommended corrective actions and control measures.

5. Risk Assessment Reviews

L8 paras 32 & 47 indicate that risk assessments should be reviewed regularly and when the assessment is no longer valid. It is the dutyholder's responsibility to identify the requirement to carry out a review of the risk assessment as detailed in D.v) below. The service provider should have procedures in place to determine, if requested/contracted, whether the existing assessment is still valid, suitable and sufficient and to decide if a review of the existing risk assessment in accordance with BS8580 section 9 is required.

D) SERVICE USER: DUTIES AND RESPONSIBILITIES

There are several key responsibilities that the dutyholder must address. These are listed below.

- There must be a legionella risk assessment that includes all systems where water is stored or used in any premises controlled by the dutyholder (COSHH Regs). This risk assessment must be reviewed when required. (See L8 paras 32 & 47.)
- When issuing any invitation to potential service providers to quote/tender for legionella risk assessment services it is extremely important that the scope of the work is clearly defined by the dutyholder or their representative. The requirement or request to "carry out a legionella risk assessment in compliance with L8" does not detail sufficiently the services required, as there are a number of areas open to interpretation and judgment.
- Schematic diagrams and asset registers must be available in order to inform and help the risk assessor. (See L8 paras 38 & 40.)
- The findings of the risk assessment including the required corrective actions and the control measures must be implemented.
- A written control scheme must be produced and maintained.
- Regular reviews of the progress of legionella control activities must be carried out.
- Procedures must be in place to determine if the existing risk assessment remains valid, suitable and sufficient. If it is not, then a risk assessment review is required.

(NB: It is likely that the risk assessor or other service providers can play a valuable role in these processes.)

FOR AND ON BEHALF OF THE LEGIONELLA CONTROL ASSOCIATION

A. SCOPE OF SERVICE DELIVERY

This service standard is for those involved in the development and application of a water treatment programme for the control of legionella bacteria in all types of water system, whether by chemical or non-chemical means. This includes the provision of water treatment products, on-site analytical and monitoring services, and the associated corrective action, maintenance, reporting and record keeping.

An appropriate water treatment programme should be capable of controlling not only legionella bacteria and other microbial activity, but also corrosion, scale formation and fouling, and it should include appropriate measures, such as regular monitoring, inspection, physical cleaning and disinfection to maintain system cleanliness.

B. KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

The service provider must ensure that all personnel involved in all aspects of the design, execution, verification and management of the programme are competent to carry out their work with reference to their capability, training, knowledge and experience. Please refer to Section C below and the Guide to the LCA Standards for Service Delivery at the beginning of this document.

C. SERVICE DELIVERY

To enable the Service Provider to deliver water treatment services in an appropriate and safe manner the LCA expects the company to have in place procedures to cover and manage the following:

1. Information Gathering/System Survey

The service provider should have a defined process for gathering the required information to design an appropriate treatment programme, e.g., a survey procedure and structured survey form.

The survey/information gathering should include, as appropriate:

- review of the current legionella risk assessment and management processes (if any) to determine if they are fit for purpose (i.e., suitable and sufficient)
- definition and agreement with the service user of the exact scope of service supply
- agreement of the outcomes between the service provider and service user essentially in line with the HSE's technical guidance HSG274
- a survey process that reviews additional aspects of the system that may or may not be covered within the current assessment, and may include, e.g.:
 - mechanical and operational aspects of the system, e.g., manufacturer, volume of system, recirculation rates, make-up source, half-life, critical heat exchangers, system metallurgy, water usage, etc.
 - chemical and microbiological properties of both the make-up source and system water
 - environmental restrictions with respect to chemical treatments, blowdown, etc.
 - a review of historical maintenance records
 - a review of historical system data in relation to risk management, e.g., current treatment, logbooks, legionella test certificates, cleaning and disinfection records, and also system operation, e.g., failures due to corrosion, scale deposition, process contamination, etc.
 - water system operational details
 - location and suitability of dosing and control equipment
 - review of the fitness for purpose of any existing treatment equipment
 - safe handling of chemicals, delivery, storage and application methods

2. Water Treatment Programme design

The service provider should have a procedure to ensure the correct products are selected, e.g., use of product selection guides. Such guides should identify control parameters and highlight any product limitations which may affect the performance of the programme.

Water treatment programme design should include (where appropriate):

- design and selection of pre-treatment and dosing and control equipment
- selection of products or control techniques
- design of the monitoring and testing programme
 - chemical test selection
 - identification of suitable sampling points
 - microbial monitoring regime
 - definition of control limits
 - test methods
 - testing frequency and service schedule
 - interpretation of results
 - corrective action
 - reporting
- cleaning and disinfection regime

3. Water Treatment Programme Initiation, Execution and Management

The service provider should have appropriate processes and procedures to ensure that the water treatment programme is initiated, executed and managed to achieve the agreed desired outcomes.

i) Programme initiation

The initiation process should ensure that the programme is correctly set up, the role and expectations of both parties is understood and, where appropriate, the service user's staff are given the necessary instruction in the aspects of the programme which they are to implement. It should include (as appropriate):

- explanation of the programme
- details of the schedule of service
- agreement, allocation and documentation of responsibilities between the service provider and the service user regarding testing, monitoring, inspection, etc.
- agreement over lines of communication and reporting
- initial instruction for the service user and/or staff
- identification of training needs
- agreement on the desired outcomes for the programme such that meaningful assessment may be made at regular review meetings
- record keeping, responsibilities and locations of records
- documentation of the agreed outcomes of the programme initiation process

ii) Programme execution

The service provider should have processes and procedures to ensure that the water treatment programme is executed consistently and effectively. These should include:

- the control of service visits and the monitoring regime
- staff training and competence
- reporting and communication (including standard service reports and specific non-compliance reports if necessary)
- programme reviews with service user (technical and L8/LCA compliance)
- responsibility for, and maintenance of records

iii) Programme verification and quality control

The service provider should have processes and appropriate procedures to verify that the planned water treatment programme is being executed and managed to the required standard and that one is delivering what one has contracted to do. These should include:

- a management process for checking that required service and monitoring has been done
- quality control sampling to ensure the correct:
 - tests are being carried out
 - control limits are employed
 - interpretation of the results

- corrective actions are advised and that
- joint reviews are taking place

D) SERVICE USER: DUTIES AND RESPONSIBILITIES

When designing a water treatment programme the service provider requires access to certain operational data to ensure that the correct programme can be supplied and the required level of service and product usage can be assessed.

It is not sufficient to request the provision of water treatment services “in accordance with L8”. Further information should be supplied in order for the service provider to meet your expectations.

The dutyholder should provide system operational details, e.g., flow rates, volumes of system/s, water usage, temperatures, as detailed in Section C1 above.

FOR AND ON BEHALF OF THE LEGIONELLA CONTROL ASSOCIATION

LCA STANDARD FOR THE DELIVERY OF HOT AND COLD WATER MONITORING AND INSPECTION SERVICES

A) SCOPE OF SERVICE DELIVERY

This service standard is for those providing services in the control of legionella bacteria growth within hot and cold water systems and the associated control measures that need to be put in place, including temperature, water quality monitoring, sampling, inspection and condition assessment, etc.

B) KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

The service provider could have a number of staff involved in the delivery of these services, e.g.

- designing the monitoring and inspection programme
- carrying out the monitoring and inspection tasks
- reporting and communicating the findings and recommendations

Please refer to Section C below and the Guide to the LCA Standards for Service Delivery at the beginning of this document.

C) SERVICE DELIVERY

To enable the service provider to deliver hot and cold water monitoring services in an appropriate and safe manner the LCA expects the company to have in place procedures to cover and manage the following:

1. Definition of scope:

This should include:

- the premises and/or buildings to be included
- the identification of the systems and components to be monitored and inspected
- frequency of monitoring and inspection
- agreement, allocation and documentation of responsibilities between the service provider and the service user regarding testing, monitoring, inspection, etc.
- agreement over lines of communication and reporting
- record format and location
- access arrangements and times

2. Surveys

Before conducting a survey a preliminary work-task site-specific risk assessment should be completed. During the survey, all required information should be obtained including:

- copies of system schematic diagrams to identify location of components
- existing risk assessment and written scheme (or access to same)
- relevant site-specific requirements
- induction procedures
- access permits and permits to work
- reporting emergencies
- security

3. Implementation

The service provider should produce the following:

- work instructions/method statements for all activities carried out by the service provider
- details of the equipment to be calibrated or tested regularly in line with current practice and calibration and testing records to be kept for audit

4. Execution

Subject to scope, this should include:

- a comprehensive set of records to be submitted to the service user, including:
 - results of all inspections, checks and measurements
 - actions to be undertaken and by whom and when

- remedy of non-conformance and by whom and when
- action to prevent re-occurrence and by whom and when
- a regular, at least annual, full review of the programme with input from the service user and the service provider, including
 - input from any relevant 3rd party service provider
 - changes in roles of responsibility – service user or service provider
 - changes in operating conditions
 - changes in service provider
 - results of monitoring and inspections
 - areas of concern and outstanding actions

5. Programme verification and quality control

To confirm that the planned service programme is being executed and managed to the required standard and is being delivered as defined by the contract, the following should be carried out by the service provider.

- Checks to ensure that the required service and monitoring has been done
- Quality control to ensure the correct:
 - tests and inspections are being carried out
 - control limits are employed
 - interpretation of the results
 - corrective actions are advised and that
 - joint reviews are taking place

D) SERVICE USER: DUTIES AND RESPONSIBILITIES

Please refer to the Guide to LCA Standards for Service Delivery at the beginning of this document.

FOR AND ON BEHALF OF THE LEGIONELLA CONTROL ASSOCIATION

LCA STANDARD FOR THE DELIVERY OF CLEANING AND DISINFECTION SERVICES

A) SCOPE OF SERVICE DELIVERY

This service standard is for those providing services in the cleaning and disinfection of any water system associated with the control of legionella bacteria including but not limited to systems containing cooling towers, evaporative condensers, dry/wet cooling systems, plume abatement cooling towers, spa pools and whirlpool baths, hot and cold down services and mains water services, humidifiers, softeners, fire and deluge systems, vehicle wash systems, misting systems, water features, engineering and machining systems, paint preparation systems, fume scrubbers, hose pipe and sprinkler systems, emergency showers and industrial processes.

B) KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

There are two main roles in the delivery of these services:

- Carrying out the cleaning and disinfection tasks (i.e., the role of the Technician)
- Surveying and planning the work, including selection of appropriate cleaning and disinfection technique and fill pack cleanliness assessment and appropriate method of cleaning (i.e., the role of the Surveyor).

The knowledge, experience and training required for each role is similar, however the Surveyor requires additional abilities. Please refer to Section C below and the Guide to the LCA Standards for Service Delivery at the beginning of this document.

C) SERVICE DELIVERY

To enable the Service Provider to deliver cleaning and disinfection services in an appropriate and safe manner the LCA expects the company to have in place procedures to cover and manage the following:

1. Definition of scope

Detailed clarification is required of the scope of the services to be supplied. Specifically:

- the premises and/or buildings involved
- the identification of the systems to be cleaned and disinfected
- service users' and/or others' responsibilities, e.g., access, removal of pack, tenting, etc.
- responsibility and cost liability for the removal and lawful disposal of wastes, e.g., disinfectant and cleaning agents, scale, sludge, fill pack, drift eliminators, etc.
- the time available to carry out the task
- an order from the service user defining the above

2. Survey

Before conducting a survey a preliminary work-task site-specific risk assessment should be completed. During the survey, all required information should be obtained including:

- a current system condition appraisal
- waste disposal options
- restrictions imposed by equipment manufacturers, e.g., chlorine tolerance, etc.
- location and isolation points for dosing, control or sensitive equipment where applicable
- copies of system schematic diagrams to identify: dead legs, redundant pipe-work or equipment, outlets, etc.
- relevant site-specific requirements
 - induction procedures
 - access permits and permits to work
 - reporting emergencies
 - security

(NB: In the case of open evaporative cooling systems, specific reference to system assessment, cleaning and disinfection methods and service user's responsibilities as detailed in the section of HSG274 Part 1 on inspection, cleaning and disinfection procedures are recommended.)

3. Design and selection

The following are required:

- The selection of an appropriate cleaning and disinfection method or technique
- A job-specific method statement based on the survey information and risk assessment including specification of:
 - PPE
 - waste disposal routes
 - isolation of any equipment
 - other special precautions
 - site requirements, etc.

4. Initiation

The following are required:

- Assessment of the technicians' competence/capability to carry out the task
- Details of all that will be issued to the technicians carrying out the tasks including:
 - job-specific method statement/work instruction
 - required PPE
 - equipment
 - chemicals
 - work-task risk assessment
 - pre-work safety assessment/check
 - emergency procedures
 - associated check records

5. Implementation

This should include:

- a pre-work safety check in addition to the original work-task risk assessment, noting any variations
- PPE and equipment checks
- records required (observations, measurements, deviations, completion, etc.)
- job-specific method statement/work instruction for the service user's information
- records of all required actions, monitoring, etc.

D) SERVICE USER: DUTIES AND RESPONSIBILITIES

- In the case of evaporative cooling, or similar systems, it is the responsibility of the dutyholder/responsible person to maintain the entire system in a clean condition and to facilitate inspection to determine if the system is clean or not.
- It is also the responsibility of the dutyholder/responsible person to make systems available for cleaning and disinfection if required (i.e., to arrange for them to be taken out of use for the required time, with users informed, and appropriate safeguards put in place) with adequate notice to enable the service provider to plan and execute the service.
- Dutyholders/responsible persons should also adhere to the agreement regarding definition of scope.

FOR AND ON BEHALF OF THE LEGIONELLA CONTROL ASSOCIATION

LCA STANDARD FOR THE DELIVERY OF INDEPENDENT CONSULTANCY SERVICES

A) SCOPE OF SERVICE DELIVERY

This service standard is for those providing a range of unbiased technical expertise related to the control of legionella bacteria in water systems, e.g., auditing; problem solving; production of: written schemes, schematic diagrams, asset registers, etc.; carrying out competence assessments; construction of record systems; project management; etc.

B) KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

Consultants should have comprehensive skill, knowledge, experience and/or training appropriate to the project undertaken, and be able to demonstrate and prove competence to carry out required tasks.

Please refer to Section C below and the Guide to the LCA Standards for Service Delivery at the beginning of this document.

C) SERVICE DELIVERY

To enable the Service Provider to deliver independent consultancy services in an appropriate and safe manner the LCA expects the company to have in place procedures to cover and manage the following:

1. Definition of service requirements

An agreement is required between both parties defining the scope of the service, its objectives and outcomes. This could include (subject to scope):

- the project objectives
- the premises and/or buildings to be included
- the identification of the water systems to be included
- the requirements regarding reporting, e.g., format/standard of schematic drawings and asset registers, the components of any management scheme to be produced, etc. (See BSRIA Guide 'Legionnaires' Disease - Risk Assessment (BG 57/2015) Section 2.4, WMSoc 'Guide to Risk Assessment for Water Services' Section 2.5, BS8580:2010 'Water quality - Risk assessments for Legionella control - Code of practice' Annex H and HSE 'Legionnaires' disease: The control of legionella bacteria in water systems (L8) Para. 40.)
- specific site safety and/or other requirements, e.g., induction training, etc.
- means of presentation of the final report, e.g., electronic format, hard copy, number of copies, etc.

2. Initiation

This should include details of the preparatory work required including:

- pre-work site-specific risk assessment
- equipment check lists
- verification by the service provider of the consultant's competence to carry out the specific project
- preparation of the project plan including resource requirements, e.g., laboratory services, additional personnel, etc.

3. Project execution (subject to scope)

This should include:

- working to quality assurance systems such as the LCA Code of Conduct to ensure that the required aspects of legionella control service management are incorporated
- provision of legionella risk assessments as detailed in the relevant LCA Standard for Service Delivery
- provision of strategic level legionella management reviews
- undertaking of water quality assessments to an appropriate rationale through a combination of site visual inspections, on-site testing, and laboratory analysis of samples
- provision of documentation to demonstrate compliance

4. Reporting (subject to scope)

The consultant should:

- offer balanced advice that can help informed decisions to be made about working environments and the service providers engaged and to consolidate or enhance performance in controlling risks

- demonstrate independence from the provision of other services, e.g., water treatment, cleaning and disinfection, remedial or maintenance services, as well as from the endorsement of the products and services of other organisations
(NB: 'Independent' Consultancy may be provided as part of, or alongside, the provision of other legionella control services. It is for the service user to decide the requirement for totally independent consultancy services.)
- provide prioritised recommendations which clearly relate back to codes of practice and guidance documents pertinent to the system and project in question and which state clearly the benefits of undertaking the action

D) SERVICE USER: DUTIES AND RESPONSIBILITIES

- When issuing any invitation to potential service providers regarding independent consultancy services to quote/ tender for any project concerned with legionella risk control services it is extremely important that the scope of the work, its objectives and outcomes, are clearly defined by the dutyholder or their representative, and documented and agreed with the consultants in respect of defining the scope of the service, referencing the agreed level of detail in, and format of, for example, schematic diagrams, asset registers, photographs, reports, etc., where applicable.
- The consultant should be provided with access to all previous information relevant to the project.
- As 'independent' consultancy may be provided as part of, or alongside, the provision of other legionella control services, it is for the service user to decide the requirement for totally independent consultancy services.

FOR AND ON BEHALF OF THE LEGIONELLA CONTROL ASSOCIATION

LCA STANDARD FOR THE DELIVERY OF TRAINING SERVICES

A) SCOPE OF SERVICE DELIVERY

This service standard is for those offering training to service users as part of service delivery, and training offered to companies and or individuals as a stand-alone service as either:

- existing standard courses or
- courses designed and developed with the service user for a specific training need

This standard does not cover in-house training of service providers for their own staff.

B) KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

Staff engaged to deliver training should:

- have extensive demonstrable knowledge and understanding of the subject being delivered and of the industry including relevant experience in the field
- continually update knowledge
- present information in a variety of formats
 - audio-visual presentations
 - practical demonstrations
 - open discussions, workshops, tutorials, etc.
 - ‘toolbox talks’
 - written information
- be highly motivated and able to engage an audience
- be a good communicator
- be able to demonstrate and prove competence to carry out required training

Please refer to Section C below and the Guide to the LCA Standards for Service Delivery at the beginning of this document.

C) SERVICE DELIVERY

To enable the service provider to deliver training services in an appropriate and safe manner the LCA expects the company to have in place procedures to cover and manage the following:

1. Training requirements

The service provider should assist the service user to identify training needs and provide appropriate training by means of standard courses with set content or with bespoke courses.

2. Standard courses

The LCA would expect the delivered training to:

- be held in an appropriate venue
- consist of appropriate delivery methods, e.g.
 - presentation
 - practical elements (where applicable)
 - student participation
- indicate clearly whether the course was delivering theoretical or practical knowledge or a combination
 - for training to include a measure of knowledge, understanding and practical skill the students should be observed and assessed carrying out tasks which present a variety of scenarios and the participants should demonstrate that they are
 - able to follow instructions
 - able to work by themselves
 - able to work safely in respect of their own safety and the safety of others
 - able to account for their actions in a clear unambiguous written record
- be carried out in group sizes appropriate to the subject and method to ensure proper candidate participation
- include a suitable marked assessment (if required) at the end of the end of the programme

- be certificated with indication of:
 - level achieved in assessment (if applicable)
 - details of subjects covered
 - date of course
 - name of issuing body and any other relevant information
- be reviewed, assessed and updated regularly

3. Courses designed and developed for a specific training need

For courses designed and developed for a specific training need, everything in a) above is applicable. In addition, the training (service) provider should ensure detailed clarification and agreement with the service user of:

- the scope of the training to be supplied
- the method of delivery
- its objectives
- desired outcomes required
- current knowledge and experience of training recipients
- methods of assessment if required

D) SERVICE USER: DUTIES AND RESPONSIBILITIES

The duties and responsibilities of the service user are:

- to assess the training needs and requirements of their own staff (possibly in conjunction with relevant service provider/s)
- to complete regular reviews of own staff training records (possibly in conjunction with relevant service provider/s)
- to complete regular competence assessments for specific tasks and identify further training requirements and format, e.g., theory, practical, etc.
- to determine if the content of any training offered meets the requirements of the intended recipient.

(NB: Training courses will deliver knowledge and measure understanding but cannot confirm the level of competence. Competence should be assessed by observation, questioning, etc., 'on the job' at appropriate intervals.)

FOR AND ON BEHALF OF THE LEGIONELLA CONTROL ASSOCIATION

LCA STANDARD FOR THE DELIVERY OF LEGIONELLA ANALYTICAL SERVICES

A) SCOPE OF SERVICE DELIVERY

This service standard is for those providing sampling and laboratory analysis services associated with the control of legionella bacteria including sample taking, transport, and reporting of results from water systems, etc. This does not include the provision of routine on-site analytical and monitoring services or on-site legionella evaluation, associated with the control of water treatment programmes as described in the other LCA Standards for Service Delivery.

B) KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

There are four main roles in the delivery of service:

- carrying out the sampling and transport to a laboratory (i.e., the role of the Technician)
- carrying out the laboratory analysis of samples related to the detection and control of legionella bacteria (i.e., the role of the Analyst)
- interpretation and reporting of results to the service user, including detailing the significance of the result and any required corrective actions (i.e., the role of the Reporter)
- production of sampling programmes (i.e., the role of the Advisor)

This standard concerns the service provider technicians, reporters and advisors. This standard does not cover the analysis, which should be carried out by UKAS accredited laboratory procedures.

Please refer to Section C below and the Guide to the LCA Standards for Service Delivery at the beginning of this document.

C) SERVICE DELIVERY

To enable the service provider to deliver legionella analytical services in an appropriate manner the LCA expects the company to have in place procedures to cover and manage the following:

1. Definition of scope

Sampling may be provided as part of, or alongside, the provision of other legionella control services or as a stand alone service. The scope of the sampling programme (see 2 below) should be agreed with the service user and recorded.

2. Sampling programme design

The sampling programme should be designed to include:

- location of sample points
- frequency of sampling
- sampling methodology
- analysis required
- reporting format and communication routes

3. Transport

Once taken, the samples should be delivered to the laboratory in appropriate condition and as soon as is practical from the point of sampling and in accordance with the relevant standard.

4. Traceability

At all points of the sampling and transport process it is critical that identity of the sample and traceability is maintained.

5. Analysis

- Legionella analysis should be carried out under UKAS accreditation (or the overseas or international equivalents).
- Rapid legionella analysis techniques, if offered, should be in addition to, and not in place of, the conventional culture technique.

6. Result reporting

- For cultured legionella samples, three reports can be obtained:
 - Presumptive results: These are samples that have growth which looks like legionella but has not been confirmed. Such results can change or revert to 'not-detected'.
 - Interim results: These are samples whose presumptive results have been confirmed as legionella but the sample has not finished its incubation. These results can increase in number.
 - Final results: These are provided once the incubation has been completed. These results do not change.
- Service providers will either incorporate certificates of analysis in their reports or include an identifying reference and make them available to service users on request.
- Reported results should clearly explain
 - the significance of the result
 - further actions required, if appropriate
 - the analysis methodology used.

D) SERVICE USER: DUTIES AND RESPONSIBILITIES

Please refer to the Guide to LCA Standards for Service Delivery at the beginning of this document.

FOR AND ON BEHALF OF THE LEGIONELLA CONTROL ASSOCIATION

LCA STANDARD FOR THE DELIVERY OF PLANT AND EQUIPMENT SERVICES

A) SCOPE OF SERVICE DELIVERY

This service standard is for those providing services in the design, manufacture, supply, installation, refurbishment, commissioning, etc., of any plant and/or equipment associated with the control of legionella bacteria in water systems and does not apply to equipment purchased from a retail or trade outlet. There are specific requirements on designers, manufacturers, importers, suppliers and installers detailed in ACOP L8 paras 75-86.

B) KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

There could be a number of roles involved in the delivery of this service, e.g.,

- obtaining information (survey)
- design of equipment/process to be installed
- installation, commissioning and servicing

All staff involved should have knowledge, understanding, skills and experience appropriate to the projects undertaken.

The service provider should satisfy themselves that all personnel involved are competent to carry out the specific tasks required.

Please refer to Section C below and the Guide to the LCA Standards for Service Delivery at the beginning of this document.

C) SERVICE DELIVERY

To enable the service provider to deliver plant and equipment services in an appropriate and safe manner the LCA expects the company to have in place procedures to cover and manage the following:

1. Definition of supply requirements

Detailed clarification is required of the scope of the services to be supplied and their objectives and outcomes. This could include (subject to scope):

- the project objectives
- the premises and/or buildings to be included
- the identification of the systems to be included
- the scope of supply
- the components of any management scheme to be produced
- an agreement between both parties defining the scope of the supply and referencing the agreed level of detail in, and format of, for example, drawings, asset registers, O&M manuals, etc.

2. Survey

This should include the following tasks:

- obtaining information required to design and/or select the appropriate system components
- reviewing the current risk assessment, if applicable, to determine if it is fit for purpose (i.e., suitable and sufficient) and of a quality to ensure safety of personnel
- carrying out a survey process that reviews additional aspects of the system that may or may not be covered within the current assessment and is relevant to the proposed system including but not limited to:
 - mechanical and operational properties
 - water chemical properties of both the make-up source and system water
 - environmental restrictions with respect to blowdown, aerosols and waste produced, etc.

3. Design

The service provider should ensure that:

- systems are designed to comply with relevant codes and guidance and state clearly what these are
- systems are so designed and constructed that they will be safe and without risks to health when used at work
- the design considers all mechanical, operational, chemical and management aspects of any existing or proposed control programmes which are relevant to the proposals

4. Delivery

The service provider should provide adequate information for the user about the risks and measures necessary to ensure that the plant and equipment, and (as appropriate) the water systems in which they are installed, will be safe and without risks to health when used at work.

(This is detailed in L8 paras 75-86.)

D) SERVICE USER: DUTIES AND RESPONSIBILITIES

There is a requirement to ensure that any equipment as described above is designed, installed and commissioned, correctly.

The information detailed in L8 paras 75-86 is required for inclusion in any written scheme and the dutyholder therefore has a responsibility to ensure that it is supplied.

FOR AND ON BEHALF OF THE LEGIONELLA CONTROL ASSOCIATION

LCA STANDARD FOR THE DELIVERY OF FACILITIES MANAGEMENT SERVICES

A) SCOPE OF SERVICE DELIVERY

This service standard is for those providing facilities management services related to the risk of exposure to legionella bacteria from work activities associated with water systems, risk control and/or reduction, and required precautionary measures. This encompasses the following services: risk assessment, water treatment, hot and cold water system monitoring and inspection, cleaning and disinfection, independent consultancy, training, analysis, plant and equipment supply and maintenance, etc., whether provided by the Facility Management Company's (FMC) own staff or sub-contracted.

B) KNOWLEDGE AND SKILL OF SERVICE PROVIDER STAFF (INCLUDING SUB-CONTRACTORS)

1. Own staff

a) Technicians

If the work-tasks in any of the above areas are being carried out by the FMC's own staff then refer to this section in the relevant LCA standard regarding the knowledge and skill that is applicable.

b) Contract managers, controllers and supervisors

The training, knowledge and experience required to manage, control and/or supervise the provision of the above services will depend on the services involved and should be based on the detail contained in this section in the relevant LCA standard. Specific training and knowledge may be required regarding the control in water systems such as swimming pools, spa pools, hydrotherapy pools, vehicle wash systems, misting systems, leisure and ornamental water features, engineering and machining systems, paint prep systems, fume scrubbers, fire and deluge systems, hose pipe and sprinkler systems, water bowsers, pressure washers, emergency showers, etc.

2. Sub-contractors

The training, knowledge, etc., required to design, implement, execute, manage, and control the provision of the above services will depend on the services involved and should be based on the detail contained in the relevant LCA Standard for Service Delivery.

Please refer to Section C below and the Guide to the LCA Standards for Service Delivery at the beginning of this document.

C) SERVICE DELIVERY

To enable the service provider to deliver facilities management services in an appropriate and safe manner the LCA expects the company to have in place procedures to cover and manage the following:

1. Scope of service

The service provider should provide detailed clarification of the scope of the services to be supplied by the FMC to the service user. In addition to the details contained in the relevant LCA Standard for Service Delivery this scope should include specifically:

- the premises and/or buildings to be included
- the identification of the water systems incorporated
- identification of responsibilities
- clear lines of communication between the FMC, the service user and all sub-contractors, which must include defined escalation routes in the event of non-compliances being ignored by any party
- a signed agreement between all parties defining the scope of the service

(NB: This detailed clarification of the scope of services should also be in place between the FMC and sub-contractors as detailed in the relevant LCA Standard for Service Delivery.)

2. In-house services

If the FMC's own staff carry out any services associated with the control of legionella, the FMC is the primary service provider and should operate as described in the relevant LCA Standard for Service Delivery.

3. Sub-contracted services

If any legionella control services are sub-contracted by the FMC, procedures should be in place to cover the following actions:

- Detail the scope of service required from the sub-contract service provider
(See Section C1 above and relevant LCA Standard for Service Delivery.)

- Assess the competence of the sub-contract service provider

(See LCA Code of Conduct, Buyer's Guide and Standards for Service Delivery and L8 paras 29, 36 & 52.)

4. Delivery of legionella services (subject to scope)

The following actions should be taken:

- Obtain from the service user information regarding:
 - existing site hazards that may affect the FMC or sub-contract service provider company
 - the existing current legionella risk assessment
 - the existing written scheme
 - up-to-date schematic diagrams
 - existing records regarding legionella control which should then be assessed for validity and/or relevance (risk assessment review)
- Define with the service user and sub-contractors the methods for:
 - recording data, e.g., paper/electronic record system
 - reporting L8 non-compliances and emergency situations

D) SERVICE USER (FMC's Service Users): DUTIES AND RESPONSIBILITIES

- The service users, system owners and operators responsibilities are detailed in L8 regarding the prevention or control of exposure to legionella bacteria. Whilst specific tasks relating to legionella risk control can be contracted to FMCs and their sub-contractors the overall responsibilities for legislative compliance remain with service users, system owners, dutyholders/responsible persons and operators. The FMC and its sub-contractors are responsible for carrying out those tasks allocated to them to ensure compliance with L8.
- Responsibilities regarding specific legionella control services are detailed in the relevant LCA Standards for Service Delivery.
- Should the appointed responsible person be a member of the FMC staff they should be empowered by the dutyholder both managerially and financially to carry out their duties. (See L8 paras 48-51.)

FOR AND ON BEHALF OF THE LEGIONELLA CONTROL ASSOCIATION