

Proficiency Module Syllabus

P904 – Legionella – Management and Control in Leisure, Display, Therapy and other Non-Industrial Water Systems

Aim: To provide an overview of the risk of legionella infection, and how it can be controlled in leisure, display, therapy and other non-industrial water systems.

Pre-requisites: Candidates must have successfully completed *P901 – Legionella - Management and Control of Building Hot and Cold Water Services*. This pre-requirement is waived where both P901 and P904 courses are run on subsequent days or as a combined course.

Prior knowledge: In addition to completion of *P901*, candidates are also expected to have a working knowledge of HSE guidance document L8 (2013), Legionnaires' disease: The control of legionella bacteria in water systems, Approved Code of Practice and guidance. They should also have knowledge of:

- HSG282 (2017), Control of legionella and other infectious agents in spa-pool systems, HSE
- HSG274 (2014), Legionnaires' disease - Technical guidance Part 3: The control of legionella bacteria in other risk systems, HSE

Learning outcomes: On successful completion, the student shall be able to demonstrate management control of complex commercial and leisure systems, specifically:

- The Legionella infection risks posed by spa pools, hot tubs, hydrotherapy pools and whirlpool baths, and the use of treatment regimes to control those risks.
- The risks associated with leisure, recreational and competition swimming pools and their associated facilities.
- Special considerations and precautionary measures for healthcare and care home premises.
- Balancing Legionella infection risk against other risks such as other pathogens, fire and scalding.
- Legionella control in large water systems and multiple units, such as the estates of private dwellings.
- Legionella infection risk in other 'at risk' water systems, including leisure, recreational and competition pools, display features; and the development of specific regimes of control for these systems.

Content:	Topic	Time allocation
	1 Legislation and guidance	5%
	2 Leisure, recreational and healthcare facilities: design and operations [30%]	30%
	3 Risk assessment	20%
	4 Water treatment	15%
	5 Operational control	10%
	6 Other risk systems	15%
	7 Record keeping	5%

Note: Reference is made in this syllabus to HSE guidance and the industry's recommended practice documentation. This may not be the most up-to-date relevant publications from HSE/other sources and is intended as guidance for candidates only.

1 Legislation and guidance [5%]

- 1.0.1 Acts and Regulations.
- 1.0.2 Approved codes of practice, HSE guidance notes, British Standards. Other industry-accepted good practice sources.

2 Leisure, recreational and healthcare facilities: design and operations [30%]

Design, commissioning and operation of the following systems:

- 2.0.1 Types and designs of spa pools including hot tubs (domestic version of a spa pool), whirlpool baths and hydrotherapy pools.
- 2.0.2 Recreational, leisure and competition swimming pools and their support facilities.
- 2.0.3 NHS premises requirements (HTM 04).
- 2.0.4 Systems using thermostatic mixing valves [TMV] (e.g. multi-head sports hall systems).
- 2.0.5 Emergency showers.

3 Risk assessment [20%]

- 3.0.1 Roles of the named dutyholder and responsible person.
- 3.0.2 Key components of the risk assessment, including COSHH requirements and system schematics etc.
- 3.0.3 General design considerations and operating procedures.

4 Water treatment [15%]

- 4.0.1 Routine cleaning and disinfection.
- 4.0.2 Scale control, the hardness cycle and base exchange softening.
- 4.0.3 Corrosion control, including common corrosion inhibitors.
- 4.0.4 Water chemistry, pH control, use of biocides.
- 4.0.5 Dissolved solids control, including concentration factor and system bleed.
- 4.0.6 Microbiological control, including oxidising/non-oxidising biocides and alternative treatment techniques.

5 Operational control [10%]

- 5.0.1 Weekly, monthly, quarterly, six monthly and annual tasks.
- 5.0.2 Routine bacteriological testing, with assessment of limitations of this data and control levels.
- 5.0.3 Records: the detail required and retention.

6 Other risk systems [15%]

The techniques used for spa and hydrotherapy pools should be extended to show how they would be directly applied to other risk systems.

This should include systems such as:

- 6.0.1 Air handling units and humidifier systems.
- 6.0.2 Fountains and water features.
- 6.0.3 Solar and heat recovery systems.
- 6.0.4 Car washing and power jet systems.
- 6.0.5 Large domestic-style water systems, such as care homes and other workplace facilities.

7 Record keeping [5%]

- 7.0.1 Regulatory requirements for record keeping.

Relevant documentation

- 1 BS 7592 (2008), Sampling for Legionella bacteria in water system - Code of Practice, BSI
- 2 BS 8580 (2010), Water quality: Risk assessments for Legionella control - Code of Practice, BSI
- 3 HSG274 (2014), Legionnaires' disease - Technical guidance, HSE
- 4 HSG274 (2014), Legionnaires' disease – Technical guidance Part 2: The control of legionella bacteria in hot and cold water systems, HSE
- 5 HSG274 (2014), Legionnaires' disease - Technical guidance Part 3: The control of legionella bacteria in other risk systems, HSE
- 6 HSG282 (2017), Control of legionella and other infectious agents in spa-pool systems, HSE
- 7 HTM04-01-Part A (2016), Health Technical Memorandum 04-01: Safe water in healthcare premises - Part A: Design, installation and commissioning, Department for Health
- 8 HTM04-01-Part B (2016), Health Technical Memorandum 04-01: Safe water in healthcare premises - Part B: Operational management, Department of Health
- 9 INDG 458 (2012), Legionnaires' disease: A brief guide for duty holders, HSE
- 10 L8 (2013), Legionnaires' disease: The control of legionella bacteria in water systems, Approved Code of Practice and guidance, HSE
- 11 PWTAG (2016), Code of Practice for Swimming Pool Water – 2016

Course length

It is envisaged that this course will be conducted over one day, which includes the examination. This course will require at least six hours' study time.

Course examination/assessment

The students will be assessed as follows:

1. **Written Theory exam** - 20 short answer questions to be answered in 60 minutes. The pass mark is 50%.
2. **Report submission** - In order to be awarded a certificate for this qualification, candidates are required to provide evidence of field proficiency. They must demonstrate that they have carried out, possibly under supervision, one field assessment of an appropriate water system under their direct or indirect control. The report must show to the report marker that the candidate is competent to do the work.