	<p style="text-align: center;"><b>Standard Operating Procedure</b></p> <p style="text-align: center;"><b>Legionella Control Plan</b></p>	<p>OP: DCU/HSO/SOP/009  Rev : 03  Approved by: GM/PK  Page : 1 of 5  Revision date: 19/10/2021  Review Date: 19/10/2024</p>
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## 1.0 PURPOSE

The purpose of this procedure is to outline how Dublin City University (DCU) manage the risk from potential exposure to Legionella bacteria that may arise from work activities.

## 2.0 SCOPE

This procedure outlines the following in relation to the control of Legionella bacteria:

- Responsibilities
- Risk Assessment
- Control Measures for prevention of legionella
- Training
- Response to a case of legionella
- Records

The procedure excludes in house specialist water systems such as Deionised water and steam.

## 3.0 RESPONSIBILITIES

**Statutory Duty holder** Dublin City University representative **Chief Operations Officer (COO)**

### **Responsible Person (*Head of Estates*)**

The responsible person will have day to day responsibility for the prevention and control of legionella bacteria in the company and is accountable to the COO who has operational responsibility for the organization. The responsible person will have sufficient authority, degree of competence and knowledge of the installation and resources to ensure control measures and system operations are carried out in a timely, safe and effective manner. Appropriate arrangements are in place to ensure the responsible person or an authorized deputy can be contacted at all times.

The Responsible person and/or their deputy are responsible for creating a Risk Assessment Action plan. This action plan should be reviewed by the responsible person and or their deputy and resolutions progress recorded or rejected with appropriate rationale given.


The primary responsibility of the maintenance department is to ensure systems are installed and maintained appropriately. The primary responsibility of the Health & Safety Office is to provide oversight and ensure compliance across all departments with respect to ongoing testing and flushing regimes.

**The Responsible person for DCU Alpha, the Facilities Manager** reports directly to the COO.

### **Deputy to Responsible Person (*Operations Manager*)**

Responsibilities are as outlined for Responsible person.

**The Facilities Managers/Officers** will have day to day responsibility for the prevention and control of legionella bacteria in their Campus.

	<b>Standard Operating Procedure</b>  <b>Legionella Control Plan</b>	OP: DCU/HSO/SOP/009 Rev : 03 Approved by: GM/PK Page : 2 of 5 Revision date: 19/10/2021 Review Date: 19/10/2024
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**Operators applying precautions (*Contracted Service Provider*)**

Persons who supervise/conduct maintenance at intervals on equipment used for carrying out the control measures. The Responsible person in consultation with the duty holder may award an annual contract for this service.

**DCU Sport** are responsible for the prevention and control of Legionella bacteria in the Spa pool. DCU Sport are responsible for flushing little-used outlets in areas under their control. Records relating to same will be retained by DCU Sport.

**Water Treatment, Monitoring and Testing:** The Responsible person in consultation with the duty holder will award an annual contract for water treatment, monitoring and testing. The contract should clearly state what work they are contracted to do and to whom they are reporting.

**Health & Safety Office:** Are responsible when requested by Estates for auditing the Water Services Logbook to ensure compliance and completion of testing and flushing regimes.

**Individual Schools/Units/Campus Companies:** are responsible for flushing the little used water outlets in their area and recording this in the forms provided.

**4.0 REFERENCES**

- Safety, Health and Welfare at Work Act, 2005
- The Safety, Health & Welfare at Work (Biological Agents) Regulations and amendments
- Health Protection Surveillance Centre: National Guidelines for the control of legionellosis in Ireland, 2009
- UK, Health and Safety Commission (HSC) document: Legionnaires Disease: the control of Legionella bacteria in water systems, approved Code of Practice and Guidance (L8)

**5.0 PROCEDURE:**

**5.1 Risk Assessment**

In Ireland under occupational Health and Safety legislation there is a legal obligation on employers to carry out a risk assessment in relation to legionella prevention and control in the workplace and where risk is identified the appropriate control measures should be put in place and a risk management plan adopted.

**Responsibilities, training and competence**


A Competent person with the relevant skills knowledge and experience should carry out the risk assessment.

**Written Risk Assessment**

A written risk assessment will be completed and the significant findings document, together with the name of the person and organization who carried out the assessment.

**Frequency of Risk Assessment**

Once the risk assessment is completed and documented, it will be reviewed regularly, at least annually. The review will be documented in the Water Services Logbook, "Record of Annual Review" and retained by the Responsible person and/or their deputy. It will be

	<b>Standard Operating Procedure</b>  <b>Legionella Control Plan</b>	OP: DCU/HSO/SOP/009 Rev : 03 Approved by: GM/PK Page : 3 of 5 Revision date: 19/10/2021 Review Date: 19/10/2024
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repeated more frequently in situations where the original assessment is considered to be No longer valid.

### 5.2 Control Measures for Prevention of Legionella

Legionella is controlled by measures which do not allow the growth of legionella bacteria in a system and which reduce exposure to water droplets and aerosols. In an effort to do this DCU have put in place the following control measures for each system:

#### Domestic cold and hot water systems

- Circulation pump change-over/stagnation control
- Temperature checks at calorifiers/heat exchangers
- Temperature checks at hot and cold water outlets (<20°C for cold water outlets and >50°C for hot water outlets)
- Legionella analysis (if required)
- Make-up and other tank inspection
- Make-up and other tank water temperature monitoring
- Flushing little used outlets (by departmental personnel where outlet is located)
- Quarterly Descaling and disinfecting shower fittings
- Water treatment specialist service visits
- Records of items listed above
- Other testing as appropriate

### 5.3 Training


DCU will ensure that all persons involved in the implementation of the control schemes are properly trained and supervised. This also applies to outside companies and consultants who are responsible for certain parts of the treatment regime.

### 5.4 Response to a case of Legionella

With aid of the Water Treatment Monitoring and Testing company an investigation will be carried out which will include:

Action level following Legionella sampling in [hot and cold water systems](#)

Legionella bacteria cfu/litre	Action required
>100 but < 1000	<p><b>Re-sample and review control programme</b> – if only one or two samples are positive the water system should be resamples. If a similar count is found again a review of the control measures and risk assessment should be carried out to identify remedial actions.</p> <p>If the majority of samples are positive, the system may be colonized, albeit at a low level, with Legionella. Disinfection of the system should be considered but an immediate review of the control measures and risk assessment should be carried out to identify any other remedial action required.</p>
>1000	<p><b>Re-sample, review programme, disinfect system</b> – the system should be re-sampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system.</p>

	<p><b>Standard Operating Procedure</b></p> <p><b>Legionella Control Plan</b></p>	<p>OP: DCU/HSO/SOP/009  Rev : 03  Approved by: GM/PK  Page : 4 of 5  Revision date: 19/10/2021  Review Date: 19/10/2024</p>
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	<p>IF the identified control measures including disinfection fail to achieve reduced levels of Legionella bacteria, the water distribution system should be examined in more detail. IF the structure and fabric of the water distribution system is found to be the cause of continued failure to control the level of Legionella bacteria, the water distribution system or part of the system should be replaced as deemed appropriate to ensure control</p>
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Source: Adapted from Table 4 in HSC UK Legionnaires' disease: the control of Legionella bacteria in water systems: approved code of practice and guidance

Emergency control measures should be identified which may involve shutting down equipment, exclusion of people from high risk area(s), closure of high risk items. Records of all emergency control measures should be documented.

Post outbreak monitoring should be conducted on a more frequent basis in order to confirm that the control measures put in place are effective.

A Post outbreak report should be prepared by the Responsible person summarizing the sequence of events, decisions made and final outcomes.

### 5.5 Records


The Responsible person and/or their deputy must ensure that appropriate up to date records or Log book relating to the control scheme are kept. The records should include the following:

- Up to date drawings showing the layout of the systems
- Asset register including all plant, pumps, strainers etc
- Service reports
- Legionella test results
- Cleaning and disinfection certificates
- Weekly site checks
- Monthly site checks
- Quarterly site checks
- Bi-annual site checks
- Annual site checks
- Staff training records
- Product data/SDS information
- Risk assessment and Risk Assessment Action plan
- Records of annual review.
- Legionella outbreak reports
- Copy of the Water Treatment Contract

Note: Some records are kept in electronic format only.

A written record of the temperature testing results should be kept in the logbook with non-conforming results logged as exceptions. The Responsible person should then note their comment or their action/modification of control measures to close this out.

Records should be retained for a period of 5 years.

	<p><b>Standard Operating Procedure</b></p> <p><b>Legionella Control Plan</b></p>	<p>OP: DCU/HSO/SOP/009  Rev : 03  Approved by: GM/PK  Page : 5 of 5  Revision date: 19/10/2021  Review Date: 19/10/2024</p>
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**6.0 HISTORY**

Revision No:	Date:	Purpose of Revision:
01	Sept 18	New SOP
02	Oct 18	Change to titles