



Glasgow Prestwick Airport

Legionella Awareness Policy

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LEGIONELLA POLICY STATEMENT FOR GLASGOW PRESTWICK AIRPORT (GPA)

The objective of the legionella policy is to control, prevent and minimize the risk from Legionella bacteria to the public, staff and contractors so far as reasonably practicable by designing, operating and maintaining plant and equipment in accordance with the Approved Code of Practice and guidance on regulation L8 (fourth edition) Published 2013, Legionnaires' disease: Technical guidance Part 2 The Control of legionella bacteria in hot and cold water systems (HSG274 Part 2 Published in 2014) and Legionnaires' disease: Technical guidance Part 3: The control of legionella bacteria in other risk systems (HSG274 Part 3 Published 2014).

CONTENTS

1. Introduction
2. Statutory Requirements – Approved Code of Practice and guidance on regulations L8 (fourth edition) Published 2013
3. An overview on Legionella Bacteria
4. Objectives
5. Roles and responsibilities
6. Management Structure for the Control of Legionella

APPENDICES

- a. A summary of the water systems GPA
- b. Named individuals with responsibility for the control of Legionella at the
- c. Action in the event of a Legionella detection
- d. Action in the event of outbreak
- e. GPA Legionella Written Instruction

1. Introduction

- a. This document sets out the legionella policy, lists its objectives and the procedures and the processes that have been put in place to provide guidance for designated staff responsible for implementing the Legionella Policy.
- b. The Policy:
 - i. Clearly defines roles and responsibilities.
 - ii. Confirms the resolve in preventing or minimizing the risk from legionella bacteria in hot, cold and other risk systems.
 - iii. Affirms commitment to have in place control measures that adhere to the risk assessment and comply with the Health and Safety Executive (HSE) Approved Code of Practice (ACOP) and Guidance HSG274 Part 2.
 - iv. Requires GPA to have a control assurance system in place to ensure the measures are being implemented, are effective, records are kept and the policy is reviewed on an annual basis.
 - v. The policy on Legionella is to be supported by the legionella written control scheme (LWCS Rev01) for safe working and a best practice which incorporates the action plan for incident management regarding Legionella detection.

2. Statutory Requirements

Legionnaires disease the control of Legionella bacteria in water systems ACOPL8

- a. The Health and Safety at Work Act 1974 sets out the broad legal requirements for health, safety and welfare of employees and others (including visitors, contractors and the general public).
- b. Beneath the Act are a series of regulations which describe more detailed obligations, such as the Control of Substances Hazardous to Health Regulations(COSHH) 2002.
- c. Further documents include Approved Code of Practice (ACOP) which serve to interpret the Regulations more specifically. In respect of this policy the Health and Safety Commission's ACOP L8 – Legionnaires Disease, The Control of Legionella Bacteria in Water Systems serves to explain the requirements of COSHH in respect of Legionella and HSG 274 Part 2 provides the guidance on how to prevent and control legionella bacteria in hot and cold water system.

3. An overview on Legionella Bacteria

- a. The term Legionellosis covers Legionnaires' disease, Pontiac Fever and Lochgoilhead Fever. Legionnaires' Disease is a Pneumonia that principally affects those who are susceptible due to age, illness, immunosuppression, smoking etc., and maybe fatal. Legionella can also cause less serious illnesses which are not fatal but which can affect all people.
- b. Legionella bacteria are water-borne organisms and transmission of the disease is by inhaling water droplets in the form of an aerosol that contain the Legionella bacteria. For Legionnaires' disease to occur contaminated bacteria must enter the victims' lungs.

- c. Legionella are widespread in natural sources of water and although this water is treated, through filtration and chlorination, at the water treatment works a few legionella bacteria may remain in the mains water. These bacteria can enter man made systems or water services where they multiply under certain favorable conditions.
- d. Legionella bacteria multiply when they are warm, well fed and sheltered. They will multiply in warm temperature conditions (20-45°C), when they have a food source such as rust or boss white, or when they are sheltered in a biofilm.
- e. The aerosol is created from appliances in hot and cold water systems such as; running showers, Belfast sinks and spa baths equipment.
- f. Other sources include humidifiers, air washers, other plant and systems containing water which are likely to exceed 20°C and may release a spray or aerosol during operation, when being maintained or tested may also present a risk.
- g. For example, fire-fighting systems that are permanently charged with water often forming long dead legs, may represent a risk when tested, e.g. Hose Reels.
- h. L8 (fourth edition) published 2013 ACOP sets out the legal duties of those responsible for the premises. This gives advice on the management and selection, training and competence of personnel, and sets out the responsibilities of manufacturers, installers of products and service providers.
- i. HSG274 Part 2 provides information and guidance on how to comply with the legislation in the ACOP.
- j. The following present a risk of Legionellosis at GPA:
 - i. Hot and cold domestic water systems
 - ii. Any other potential risk systems within the airport
 - iii. Appendix 1 provides details of the types of water systems and the control measures put in place for each system.

Risk Assessment

- k. Under ACOP and in accordance with COSHH regulations, there is a requirement to carry out an assessment to identify and assess the risk from Legionella associated with all water systems on site. The risk assessment should be reviewed under the following circumstances:
- vi. There is a change to the water system or its use;
 - vii. There is a change to the use of the building where the system is installed;
 - viii. There is new information available about risks or control measures;
 - ix. When the results of checks indicating that control measures are no longer effective;
 - x. When changes to key personnel;
 - xi. When there is a case of legionnaires' disease/legionellosis associated with the system.

Management and Control

- l. It is then necessary to implement a Legionella Management and Control Programme and demonstrate that all necessary steps to achieve and maintain adequate control have been considered and implemented as far as reasonably practicable. HSG274 Part 2 provides information and guidance on how to comply with the legislation in the ACOP.

4. Objectives

- a. Regular Risk assessment: identify and assess sources of risk from Legionella.
- b. Action plan: Prepare a written scheme (LWCS Rev01), which puts in place control measures that take account of the risk assessment and prevents or minimises the risk from exposure to Legionella.
- c. Safe working practices: implement and manage the scheme of precautions and other measures in compliance of the Policy. Nominate a L8 oversight responsible to oversee and implement the scheme of precautions.
- d. Assurance of control: implement monitoring and recording procedures to ensure that the measures put in place are adequate and effective.
- e. Provide regular training of all personal involved, to ensure they have a level of knowledge and competence commensurate with their involvement in the control procedure.
- f. Review the risk assessment when:
 - i. There is a change to the water system or its use;
 - ii. There is a change to the use of the building where the system is installed;
 - iii. There is new information available about risks or control measures;
 - iv. When the results of checks indicating that control measures are no longer effective;
 - v. When changes to key personnel;
 - vi. When there is a case of legionnaires' disease/legionellosis associated with the system.
- g. Review Policy at least annually and earlier if any legislation has been implemented.
- h. Purchase and install equipment for new projects, scheme or replacement programs, which prevents and or minimises the risk.

Roles and responsibilities

- i. Management and responsibilities
 - i. It is essential that adequate management of financial resources are made available for prevention or minimising the risk arising from Legionella. It is important that all personnel whether involved in assessing risk, carrying out precautionary measures, planned preventive maintenance and those carrying out refurbishment or alterations are competent, trained and aware of their responsibilities.
- j. Building Types GPA and owner responsibilities
 - i. It is important that there is a contract or a tenancy agreement stating the extent of responsibilities of GPA and the other agencies involved in regards to legionella control. Where there is no contract or tenancy agreement in place or it does not specify who has responsibility, the duty is placed on whoever has control of the premises or part of the premises.
- k. There are three main types of building at GPA
 - i. The Main Terminal Building where GPA is the owner and leases parts of the building to other agencies.
 - ii. External buildings where GPA is the owner/landlord and is responsible for the water quality in the building.
 - iii. External buildings where GPA is the landlord but the tenant is responsible for the water quality in the building.
- l. Duty Holder
 - i. Responsible for the issue of the Legionella Policy.
 - ii. Has legal duty to ensure compliance with ACOP L8.
 - iii. Appoints the responsible person
 - iv. The Duty Holder should have sufficient knowledge to be able to competently carry out this role and undertakes refresher training biennial.

m. Responsible person

- i. Ensures provision of resources for implementing the requirements of the ACOP L8.
- ii. Shall nominate in writing all Deputy responsible persons.
- iii. Responsible for the issue of a Written Scheme of Control Measures.
- iv. Ensure all the maintenance, capital development project team and measured term contractors comply with ACOP L8 and the Legionella Policy.
- v. Ensure project managers are competent and receive suitable training.
- vi. The Responsible Person should have sufficient knowledge to be able to competently carry out this role and attend refresher courses biennially.

n. Nominated Deputy Responsible person

- i. The nominated deputy responsible person shall draw support from competent specialists such as water treatment consultants. All laboratories used by GPA or the specialist water treatment consultant must be UKAS accredited.
- ii. Is the person to take day-to-day responsibility for controlling any identified risk from Legionella bacteria.
- iii. Is the person who will liaise with the specialist water treatment company on a day-to-day basis.
- iv. Ensures the control measures resulting from the risk assessment and those contained in the written scheme are carried out in full and are recorded diligently.
- v. Ensures the maintenance department manages the operations and planned preventive maintenance activities of the facilities and assets in regard to Legionella in accordance with all relevant regulations and the Policy.
- vi. Helps the duty holder to update and make amendments to the Policy that may be necessary in the future.
- vii. Operates as the focal point for Legionella related issues.
- viii. Liaise and advise the maintenance team and sub-contractors of water treatment issues, e.g. removal of dead legs, installation of new compliant plant.
- ix. The Nominated Deputy Responsible Person should have in depth knowledge and attended refresher courses biennially.
- x. Arrange any additional (not planned from the Planned

- Preventative Maintenance (PPM) schedule) disinfections, remedial actions and the de- scale of outlets as required.
- xi. Ensures that a fault reporting ticket is raised and issued to the appropriate party.
 - xii. Attend regular meetings to discuss legionella and water treatment issues.
- o. Water Treatment Company
- i. A specialist contractor is the person or organisation designated by the management to be responsible for the validation and verification of hot and cold water services, and for the conduct of the installation checks and tests. In relation to the control of Legionella, it is essential to ensure that potential contractors have suitable legionella awareness training, experience and qualifications.
 - ii. Monitors calorifier flow and return temperatures on a monthly basis.
 - iii. Monitors the peroxide levels at applicable sentinels on a monthly basis.
 - iv. Monitors the temperature hot and cold sentinels on a monthly basis
 - v. Checks, cleans and de-scales shower head and hoses on a quarterly basis or as required.
 - vi. Monitors all hot and cold water service temperatures throughout the course of the year at each designated location as specified by the Aqua Adept computer system.
 - vii. Inform the deputy responsible person in writing of any surplus to requirement showers, taps, sinks, baths and any appliances connected to the hot or cold water services, e.g., items identified in the risk assessment. This is with a view to removal or flushing.
 - viii. Inform the deputy responsible person in writing about incorrect temperatures of water issuing from taps, discoloration or unusual smell from the hot or cold water supply. All non- conformances will be detailed on the Aqua Adept monitoring system but in addition to this the deputy responsible person will receive a summarised copy of the non- conformances.
 - ix. Will arrange a biannual meeting with the deputy responsible person to discuss the contract and any on-going issues.

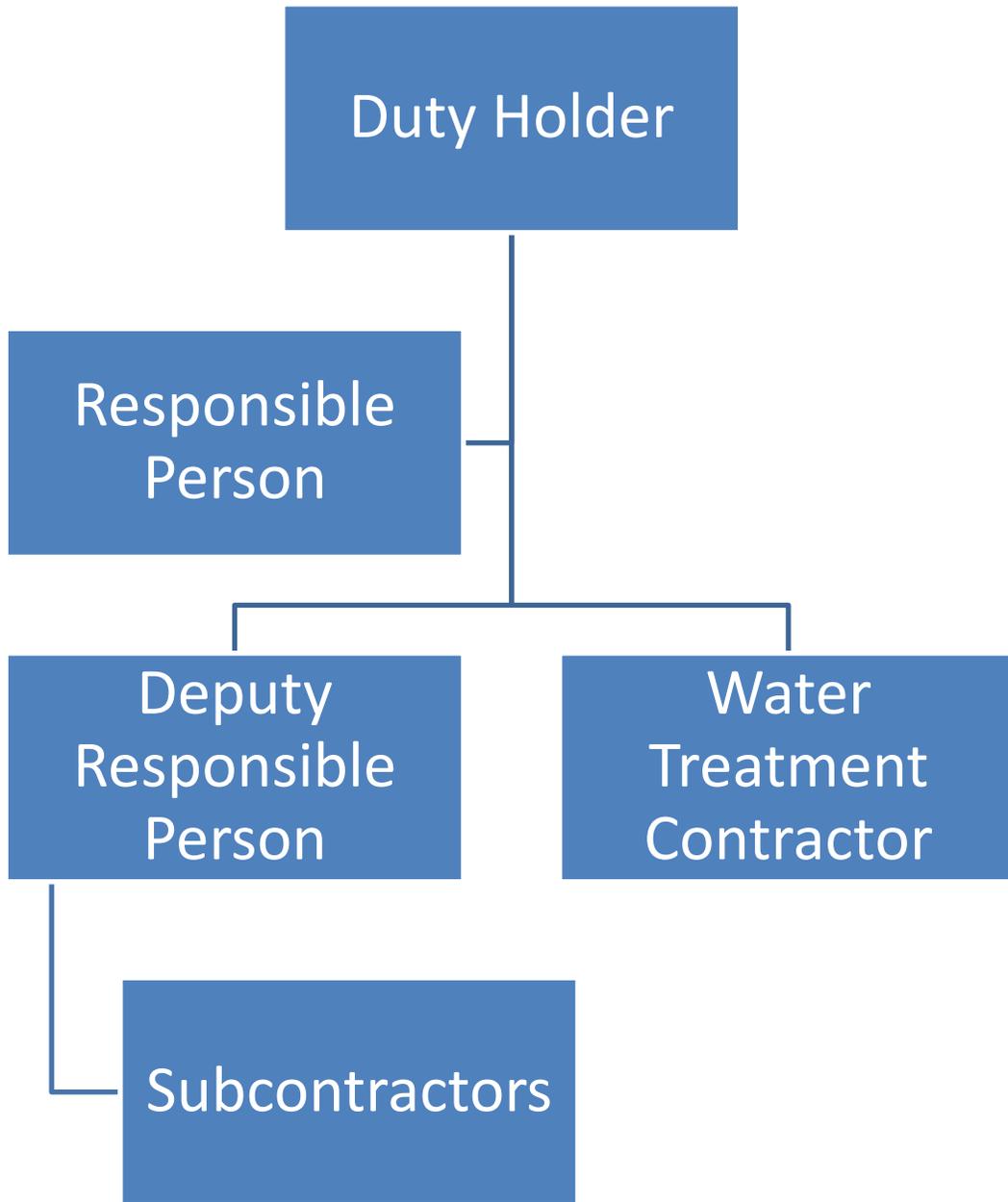
p. Subcontractors

- i. Any subcontractor working on a water system should be approved through GPA contractor control.
- ii. Prior to commencing any work relating to water systems the contractor should undergo GPA legionella awareness training.

This policy will be reviewed annually, or as new knowledge on the subject evolves and subsequent guidance is issued.

6. Management Structure for the Control of Legionella

- a. The following diagram illustrates the lines of responsibility for the control of Legionella.



Appendix 1: Water Systems in GPA

Service	Action to take	Frequency	Comments:
Calorifiers	Inspect calorifier internally by removing the inspection hatch or using a boroscope and clean by draining the vessel. The frequency of inspection and cleaning should be subject to the findings and increased or decreased based on conditions recorded	Annually, or as indicated by the rate of fouling	The policy of GPA is to open the calorifiers on a biennial basis for inspection.
	Where there is no inspection hatch, purge any debris in the base of the calorifier to a suitable drain. Collect the initial flush from the base of hot water heaters to inspect clarity, quantity of debris, and temperature	Annually, but may be increased as indicated by the risk assessment or result of inspection findings	GPA should carry out this task annually. SAFESOL Ltd (Water treatment company) have been advised that they should not undertake this task.
	Check calorifier flow temperatures (thermostat settings should modulate as close to 60 °C as practicable without going below 60 °C) Check calorifier return temperatures (not below 50 °C, in healthcare premises not below 55 °C)	Monthly	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non-conformances will be highlighted.
Hot water services	For non-circulating systems: take temperatures at sentinel points (nearest outlet, furthest outlet and long branches to outlets) to confirm they are at a minimum of 50 °C within one minute (55 °C in healthcare premises)	Monthly	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non-conformances will be highlighted.
	For circulating systems: take temperatures at return legs of	Monthly	This is carried out by the water treatment company

	<p>principal loops (sentinel points) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises). Temperature measurements may be taken on the surface of metallic pipework</p>		<p>(SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non- conformances will be highlighted.</p>
	<p>For circulating systems: take temperatures at return legs of subordinate loops, temperature measurements can be taken on the surface of pipes, but where this is not practicable, the temperature of water from the last outlet on each loop may be measured and this should be greater than 50 °C within one minute of running (55 °C in healthcare premises). If the temperature rise is slow, it should be confirmed that the outlet is on a long leg and not that the flow and return has failed in that local area</p>	<p>Quarterly (ideally on a rolling monthly rota)</p>	<p>This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non- conformances will be highlighted.</p>
	<p>All HWS systems: take temperatures at a representative selection of other points (intermediate outlets of single pipe systems and tertiary loops in circulating systems) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises) to create a temperature profile of the whole system over a defined time period</p>	<p>Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control</p>	<p>This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non- conformances will be highlighted.</p>

POU water heaters (no greater than 15 litres)	Check water temperatures to confirm the heater operates at 50–60 °C (55 °C in healthcare premises) or check the installation has a high turnover	Monthly–six monthly, or as indicated by the risk assessment	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non- conformances will be highlighted.
Combination water heaters	Inspect the integral cold water header tanks as part of the cold water storage tank inspection regime, clean and disinfect as necessary. If evidence shows that the unit regularly overflows hot water into the integral cold water header tank, instigate a temperature monitoring regime to determine the frequency and take precautionary measures as determined by the findings of this monitoring regime	Annually	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non- conformances will be highlighted.
	Check water temperatures at an outlet to confirm the heater operates at 55–60 °C	Monthly	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non- conformances will be highlighted.
Cold water tanks	Inspect cold water storage tanks and carry out remedial work where necessary	Annually	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non- conformances will be highlighted.

	Check the tank water temperature remote from the ball valve and the incoming mains temperature. Record the maximum temperatures of the stored and supply water recorded by fixed maximum/minimum thermometers where fitted	Annually (Summer) or as indicated by the temperature profiling	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non-conformances will be highlighted.
Cold water services	Check temperatures at sentinel taps (typically those nearest to and furthest from the cold tank, but may also include other key locations on long branches to zones or floor levels). These outlets should be below 20 °C within two minutes of running the cold tap. To identify any local heat gain, which might not be apparent after one minute, observe the thermometer reading during flushing	Monthly	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non-conformances will be highlighted.
	Take temperatures at a representative selection of other points to confirm they are below 20 °C to create a temperature profile of the whole system over a defined time period. Peak temperatures or any temperatures that are slow to fall should be an indicator of a localised problem	Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non-conformances will be highlighted.
	Check thermal insulation to ensure it is intact and	Annually	This is carried out by the water treatment company

	consider weatherproofing where components are exposed to the outdoor environment		(SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non- conformances will be highlighted.
Showers and spray taps	Dismantle, clean and descale removable parts, heads, inserts and hoses where fitted	Quarterly or as indicated by the rate of fouling or other risk factors, e.g. areas with high risk patients	This is carried out by the water treatment company (SAFESOL Ltd) and recorded using the Aqua Adept monitoring system. Any non- conformances will be highlighted.
POU filters	Record the service start date and lifespan or end date and replace filters as recommended by the manufacturer (0.2 µm membrane POU filters should be used primarily as a temporary control measure while a permanent safe engineering solution is developed, although long-term use of such filters may be needed in some healthcare situations)	According to manufacturer's guidelines	There are no POU filters on site.
Base exchange softeners	Visually check the salt levels and top up salt, if required. Undertake a hardness check to confirm operation of the softener	Weekly, but depends on the size of the vessel and the rate of salt consumption	There are no water softeners on site.
Base exchange softeners	Service and disinfect	Annually, or according to manufacturer's guidelines	There are no water softeners on site.

Appendix 2 Named Individuals – Roles and Responsibilities

Responsibility	Name	Position
Duty Holder	John McCafferty	Health and Safety GPA
Responsible Person (Facilities Engineering Manager)	Stephen Allison	Facilities Engineering Manager
Deputy Responsible Person (Facilities Engineering Supervisor)	Ian Garner	Facilities Engineering Supervisor
Specialist water treatment contractor	SAFESOL Ltd	Water Treatment Specialist

APPENDIX 3. ACTION IN THE EVENT OF A LEGIONELLA DETECTION

Domestic Water Services (Hot and Cold Water)

The following table is taken from HSG274 Part 2 Page 41

Action levels following legionella sampling in hot and cold water systems

Table 1

Legionella bacteria (cfu/l)	Recommended actions
>100 cfu/l and up to 1000	<p>Either:</p> <p>If the minority of samples are positive, the system should be resampled. If similar results are found again, a review of the control measures and risk assessment should be carried out to identify any remedial actions necessary or</p> <p>If the majority of samples are positive, the system may be colonised, albeit at a low level. An immediate review of the control measures and risk assessment should be carried out to identify any other remedial action required. Disinfection of the system should be considered</p>
>1000 cfu/l	<p>The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. Retesting should take place a few days after disinfection and at frequent intervals afterwards until a satisfactory level of control is achieved.</p>

APPENDIX 4.**Action in the event of an outbreak**

1. GPA will follow the guidance in HSG 274 Part 2 Appendix 2.3: Action to take in the event of an outbreak. They will provide full cooperation with the Local Authority and the HSE.
2. Legionnaires' disease is notifiable under public health legislation in Scotland.
3. An outbreak is defined by Health Protection Scotland (HPS) as two or more confirmed cases of legionellosis occurring in the same locality within a six-month period. Location is defined in terms of the geographical proximity of the cases and requires a degree of judgement. It is the responsibility of the Proper Officer for the declaration of an outbreak. The Proper Officer is appointed by the Local Authority under public health legislation and is usually a Consultant in Communicable Disease Control (CCDC).

Action in the event of an outbreak

4. South Ayrshire Council has an established incident plan to investigate major outbreaks of infectious disease including legionellosis. These are activated by the Proper Officer who invokes an Outbreak Committee, whose primary purpose is to protect public health and prevent further infection. This will normally be set up to manage the incident and will involve representatives of all the agencies involved. HSE or the Local Authority EHO may be involved in the investigation of outbreaks, their aim being to pursue compliance with health and safety legislation.
5. Whoever receives an enquiry or notification regarding an outbreak of legionellosis alleged to be connected with the airport premises or plant must immediately notify the Head of Health and Safety, who will notify the Head of Maintenance, and other relevant persons.
6. The GPA Head of Health and Safety will be the main contact for the investigating appointed officer.
7. CCDC or the Council's Emergency Health Officer may make a site visit.

8. As part of the outbreak investigation and control, the enforcing authority may make the following requests and recommendations.
- a. To shut down any processes that are capable of generation and disseminating airborne water droplets and keep them shut down until sampling procedures and any remedial cleaning or other work has been done. Final clearance to restart the system may be required.
 - b. To take water samples from the system before any emergency disinfection being undertaken. This will help the investigation of the cause of the illness. The investigating officers from the Council may take samples or require them to be taken.
 - c. To provide staff health records to discern whether there are any further undiagnosed cases of illness, and to help prepare case histories of the people affected.
 - d. To co-operate fully in an investigation of any plant that may be suspected of being involved in the cause of the outbreak. This may involve, for example:
 - i. Tracing of all pipework runs;
 - ii. Detailed scrutiny of all operational records;
 - iii. Statements from plant operatives and managers;
 - iv. Statements from water treatment contractors or consultants
 - e. The Head of Health and Safety will be responsible for ensuring that the requests and recommendations made by the enforcing authority are implemented.
 - f. The Head of Health and Safety will notify the press office of any enquiry or notification of Legionellosis in connected with GPA.
 - g. The Head of Health and Safety will notify GPA legal advisers if the enforcing authority indicates that an outbreak is linked to GPA premises and convey any advice received to the Director of Facilities.
 - h. Any infringements of relevant legislation may be subject to a formal investigation by the appropriate enforcing authority.