



Briefing 16/10 March 2016

Managing Legionella – a case study

To: all contacts

Key issues

What is legionella?

Good practice example from Wolverhampton Homes

1. Introduction

Legionella bacteria are water based and potentially fatal causing Legionnaires' disease. As such legionella bacteria is a risk for almost all water systems found within buildings and must be effectively monitored and controlled in accordance with Approved Code of practice (ACoP) L8. (fourth edition) under the Health and Safety at Work Act. Local authorities are responsible under this Act. Failure to have an effective legionella monitoring regime can lead to prosecution under the Health & Safety at Work etc. Act 1974 and punishment can be via a fine or imprisonment or possibly both.

APSE briefings are intended to spread information about good practice across the membership and this briefing will inform members about the work carried out at Wolverhampton Homes, the Wolverhampton City Council ALMO which manages the council's housing stock. Wolverhampton Homes (Contracts & Compliance) currently monitor former sheltered blocks, high rise blocks where there is stored water, offices, tenant meeting rooms etc.

Wolverhampton Homes' legionella policy was updated in 2015 by Keith Gibbons, Principal Contracts Supervisor and has recently received 3rd party accreditation from one of the world's leading authorities on legionella, David Harper, Eng.Tech., M.I.H.E.E.M., F.W.M.Soc., M.C.I.P.H.E., M.I.I.E., M.A.S.E.E., M.I.E.T. who wrote, "I have looked at your now updated policy and are of the opinion that it is a good document and would to the best of my belief stand up in a court of law".

Wolverhampton Homes are happy to share this document with APSE colleagues in order to help spread good practice across the sector.

2. Background

Legionella bacteria are common in natural water courses such as rivers and ponds. Since legionella are widespread in the environment, they contaminate and grow in other water systems such as cooling towers and hot and cold water services. They survive low temperatures and thrive at temperatures between 20°C - 45°C if the conditions are right, e.g. if a supply of nutrients is present such as rust, sludge, scale, algae and other bacteria. They are killed by high temperatures in excess of 60°C.

Legionnaires' disease is a potentially fatal form of pneumonia caused by legionella bacteria. Infection is caused by inhaling small droplets of water deep into the lungs which contaminated by the bacteria, or by aspirational (gagging). The disease cannot be passed from one person to another. Everyone is potentially susceptible (male or female) to infection, but some people are at higher risk e.g. those over 50 years of age, smokers, males and heavy drinkers, those suffering from chronic respiratory or kidney disease and people whose immune system is impaired.

The disease is normally contracted by inhaling legionella bacteria deep into the lungs, either in tiny droplets of water in the form of aerosols or in droplet nuclei which are particles left after water has evaporated and are contaminated with legionella. The incubation period is between 2 – 10 days and not everyone will develop symptoms of the disease.

In 2002 an outbreak of legionnaires disease occurred in Barrow in Furness with 172 cases being reported. There were 7 fatalities. An employee of Barrow in Furness Borough Council, and the authority itself were charged with 7 counts of manslaughter. Subsequently cleared of manslaughter, the employee was fined £15,000, and the authority fined £125,000 for breaches of health & safety legislation.

3. APSE Comment

Members will be well aware of the need to ensure policies and procedures for all risks are current and fit for purpose and this includes legionella. APSE is keen to promote good practice and encourages others to use this case study as a prompt to re-visit their own arrangements where necessary.

The value of having policies and procedures verified by external experts is clear and is hopefully something that never has to be relied upon in court. However if a council does find itself in such a situation, this kind of verification will be welcome indeed.

In terms of the detail of the risk assessment attached below, the responsibilities that Wolverhampton Homes has are similar in scale to many other landlords, so the arrangements they have put in place, the financial estimates they have made and their overall approach provides a sound starting point for others to review their own.

The attached table identifies the visits made by operatives to undertake gas servicing or repairs as part of a potential method of entering difficult to access properties. Clearly, only suitably trained and accredited staff should undertake duties relevant to legionella monitoring. This could mean qualified operatives undertaking more than one job or two operatives attending simultaneously during existing appointments. This is a good use of resource and reflects the approach that many are taking of gaining the most value possible from each visit to a property. Many landlords have moved on from the times when a council officer or operative went to a property to perform a single function. They are now able to look out for signs of abuse, physical deterioration of the property, ASB, financial hardship including fuel poverty, and health and wellbeing issues. They are also in a position to offer advice to tenants about how the council or other organisations can support them. Equally, addressing 2 jobs at a single visit reduces disruption for the tenant.

Collating information about the asset whether that is an individual property, sheltered accommodation or a civic building, is a fundamental input to the process of managing the building stock and data relating to legionella is one element of this data.

Needless to say most authorities with legionella responsibilities will already have adequate procedures in place but this example will provide a comparator for consideration.

Phil Brennan
Principal Advisor

RISK ASSESSMENTS & VOIDS

<u>Requirements to meet new legislation in respect of Risk Assessments</u>	<u>How Wolverhampton Homes will meet these requirements</u>
<p>Residential Accommodation: Landlords and shared premises (Part 2 HSG274)</p>	
<ul style="list-style-type: none"> • Wolverhampton Homes have an obligation to carry out the following:- A) Landlords who provide residential accommodation, as the person in control of the premises or responsible for the water systems in their premises, have a legal duty to ensure that the risk of exposure of tenants to legionella is properly assessed and controlled. This duty extends to residents, guest, tenants and customers. They can carry out a risk assessment themselves if they are competent, or employ somebody who is. 	<ul style="list-style-type: none"> • Wolverhampton Homes approach subject to approval:- <p>Wolverhampton Homes as the Managing agent propose to manage this by way of arranging risk assessments and rectifying any identified remedial repairs.</p>
<p>B) Where a managing (or letting) agent is used, the management contract should clearly specify who has responsibility for maintenance and safety checks, including managing the risk from legionella. Where there is no contract or agreement in place or it does not specify who has responsibility, the duty is placed on whoever has control of the premises and the water system in it, and in most cases, this will be the landlord themselves.</p>	<p>This will be managed in line with Wolverhampton Homes Legionella Policy and executed through our current legionella contract.</p>
<p>C) All water systems require a risk assessment but not all systems require elaborate control measures. A simple risk assessment may show that there are no real risks from legionella, but if there are, implementing appropriate measures will prevent or control these risks. The law requires simple, proportionate and practical actions to be taken, including identifying and assessing sources of risk, managing the risk, preventing or controlling the risk; and periodically checking that any control measures are effective.</p> <p>It may be impractical to risk assess every individual residential unit, e.g. where there are a significant number of units under the control of the landlord, such as Housing associations or Councils. In such cases, a representative proportion of the premises for which they have responsibility should initially be assessed. On</p>	<p>Wolverhampton Homes currently manage 13 archetypes of property. The 13 archetypes have been divided into 2 categories, properties with stored water and properties without stored water.</p> <p>Contracts & Compliance have instructed our contractor to carry out sample risk assessments of all 13 types.</p> <p>It is known that properties with stored water present the highest risk to Wolverhampton Homes. The programme of assessing will be based on this information and results of the sample risk assessments.</p> <p>Wolverhampton Homes will undertake the provision of risk assessments based on the different archetypes, approaching the highest risk first.</p>

<p>the basis of similar design, size, age and water supply, with the entire estate eventually assessed on a rolling programme of work.</p> <p>For most residential settings, the risk assessment may show the risks are low, in which case, no further action may be necessary, e.g. housing units with small domestic-type water systems where water turnover is high. If the assessment shows the risks are insignificant and are being property managed to comply with the law, no further action may be required, but it is important to review the assessment periodically in case anything changes in the system. However, the frequency of inspection and maintenance will depend on the system and the risks it presents.</p> <p>Where there are difficulties gaining access to occupied housing units, appropriate checks can be made by carrying out inspections of the water system, e.g. when undertaking mandatory visits such as gas safety checks or routine maintenance visits.</p>	<p>There is no specific time scale in which all risk assessments are to be completed. For measurement purposes we intend to undertake 1145 per year, spreading the cost over a longer period, circa 20 years.</p> <p>The risk assessment looks at the water system within the property and the people who live there. These factors contribute towards identifying the risk rating. It is envisaged that the majority of Wolverhampton Home's risk assessments will be identified as low risk. However this does not alleviate Wolverhampton Home's responsibility to undertake risk assessments to all its properties or manage any risk identified.</p> <p>Risk assessments have to be reviewed periodically, and can be reviewed as a % of similar archetypes. The period between reviews and % of each archetype to be reviewed will be dictated by the results of the first risk assessment. Properties identified as low risk will have a longer period between reviews and a lower % of reviews than those of identified as high risk.</p> <p>If access is difficult, the undertaking of the risk assessment inspection can be linked to the annual gas check or any identified routine repairs.</p>
<p>D) Simple control measures can help manage the risk of exposure to legionella and should be maintained, such as:</p> <ul style="list-style-type: none"> • flushing out the system before letting the property, • avoiding debris getting into the system (e.g. ensure the cold water tanks, where fitted, have a tight-fitting lid); • setting control parameters (e.g. setting the temperature of the calorifier to ensure water is stored at 60 °C); • making sure any redundant pipework identified, is removed; • advising tenants to regularly clean and dis-infect showerheads. 	<p>Some control measures will be carried out by the void / lettings team, flushing properties before occupation. Housing management officers will be advising new tenants by leaflet and website.</p> <p>Incumbent Gas contractor will also take on additional work when in a property. Whilst carrying out the annual gas service they will check the condition of the cold water tanks, set the calorifier or combination boiler to 60°C where possible.</p> <p>This will fulfil our obligation as part of HSG274.</p> <p>If access is difficult the risk assessment will be linked to the annual gas service or any identified routine repairs.</p>
<p>E) Landlords should inform tenants of the potential risk of exposure to legionella and</p>	<p>New tenants will be informed on how to manage legionella by taking simple</p>

<p>its consequences and advise on any actions arising from the findings of the risk assessment, where appropriate. Tenants should be advised to inform the landlord if the hot water is not heating property or if there are any other problems with the systems, so that appropriate action can be taken.</p>	<p>measures outlined on a leaflet and website at sign up. The communication team are to notify existing tenants and leaseholders of the risks from legionella, via Wolverhampton Homes' website, and newsletters. Local repair teams will respond to any issues relating to no hot water or low water temperatures.</p>
<p>F) The risk may increase where the property is unoccupied for a short period. It is important that water is not allowed to stagnate within the water system and so dwellings that are vacant for extended periods should be managed carefully. As a general principle, outlets on hot and cold water systems should be used at least once a week to maintain a degree of water flow and minimise the chances of stagnation. To manage the risks during non-occupancy, consider implementing a suitable flushing regime or other measures, such as draining the system if the dwelling is to remain vacant for long periods.</p> <p>Buildings temporarily taken out of use (mothballing)</p> <p>Where a building, part of a building or a water system taken out of use (sometimes referred to as mothballing), it should be managed so that microbial growth, including legionella in the water, is appropriately controlled.</p> <p>All mothballing procedures are a compromise between adequate control of microbial growth, the use of water for flushing (while avoiding waste) and degradation of the system by any disinfectant added. Where disinfectants are used, these should leave the system fit for its intended purpose.</p> <p>In general, systems are normally left filled with water for mothballing and not drained down as moisture will remain within the system enabling biofilm to develop where there are pockets of water of high humidity. The water in the system also helps to avoid other problems associated with systems drying out, including failure of tank joins and corrosion in metal pipework. The systems should be re-commissioned as though they were new (i.e. thoroughly flushed, cleaned and dis-infected) before returned to use.</p>	<p>There are 3 recognised methods of complying with this part of the legislation.</p> <p>The Voids and Lettings teams will be required to implement one of the following:-</p> <ol style="list-style-type: none"> 1) Implement a robust weekly flushing regime, to all empty properties weekly, up until seven days prior to occupancy. All flushing must be recorded and records kept. 2) Implement a regime which entails the system to be left charged and flushed two weeks prior to tenancy. Following this flushing, a sample will be taken for analysis. If results of sample are not satisfactory the system will require cleaning and disinfecting and resampling. 3) Drain down complete water system. Seven days prior to tenancy, clean, refill, disinfect and sample. <p>Based on historic information we manage an average of 1700 void properties per year.</p> <p>Current costs potentially rule out Option 3, so it is proposed that option one would be most practical solution to meet the revised standard.</p>
<p>G) Shared Premises</p> <p>Those who have to any extent, control of premises for work-related activities or the</p>	<p>There are two separate areas for control.</p>

water systems in the building, have a responsibility to those who are not their employee, but who use those premises. A suitable and sufficient assessment must be carried out to identify, assess and properly control the risk of exposure to legionella bacteria from work activities and the water systems on the premises.

In estate management, it is increasingly common for there to be several duty-holders in one building. In such cases, duties may arise where persons or organisations have clear responsibility through an explicit agreement, such as a contract or tenancy agreement.

The extent of the duty will depend on the nature of that agreement. For example, in a building occupied by one leaseholder, the agreement may be for the owner or leaseholder to take on the full duty for the whole building or to share the duty. In a multi-occupancy building, the agreement may be that the owner takes on the full duty for the whole building. Alternatively, it might be that the duty is shared where, e.g. the owner takes responsibility for the common parts while the leaseholders take responsibility for the parts they occupy. In other cases, there may be an agreement to pass the responsibilities for the parts they occupy. In other cases, there may be an agreement to pass the responsibilities to a managing agent. Where a managing agent is used, the management contract should clearly specify who has responsibility for maintenance and safety checks, including managing the risk from legionella.

Where no contract or tenancy agreement in place or it does not specify who has responsibility, the duty is placed on whoever has control of all, or part of the premises

A) Wolverhampton Homes

B) City Council

A) Will be managed through the management of Legionella Policy undertaken by Wolverhampton Homes.

B) City are aware of their responsibility under L8 HSG 274

Financial Implications for Risk Assessments for Wolverhampton Homes

Wolverhampton Homes originally utilised a budget of £110,000 per annum.

Cost of risk assessment	No. of risk assessments p.a. (based on 5% of stock)	Total per annum
£80.00	1145	£91,600

Remedial Repairs

Following each assessment some remedial repairs may be required. These could include items such as, replace missing tank lid, remove dead leg pipework, clean & disinfect existing tank, renew tank, reset temperatures, etc. These repairs have a cost implication. For example, in 2015/16 costs

for remedial repair works identified currently stand at £8,000.00. It is anticipated that there may be a further £2000 - £3,000. Totalling approx £10,000 - £11,000 in 2015/16

For information only

Should the current gas contractor be successful in retaining the contract, it is proposed to utilise their engineers to check that any cold water storage tanks have a tight fitting lid and that the temperature settings to water heating appliances are set correctly. It is expected that this service may be used on difficult to access properties as part of the gas service visit. There is currently no proposed financial implication for this.

Financial Implications for Voids

Option 1 - Weekly flushing of voids could potentially be an internal staffing resource within the voids team, cost implications for this unknown at this stage.

Incumbent contractor could be used to carry out this weekly flushing. Based on current prices financial implications to utilise the contractor indicate a minimum of £43,000 per annum. This is to carry out 1 visit per void based on 1700 voids per year. Please be aware the longer the void works take the more visits would be required i.e a void taking 4 weeks to complete would require 4 visits.

Option 2 - Flush and sample 2 weeks prior to tenancy. Incumbent contractor would be required to carry this out. Based on current prices financial implications to utilise the contractor indicate a minimum of £160,000 per annum. Based on 1700 voids per year. Please be aware should the sample be positive a further cost of £245.00 will be incurred to clean and disinfect the system and carry out further samples.

Option 3 - Drain down of system completed by voids team. Clean and disinfection of system by incumbent contractor and samples would cost £245.00 x 1700 voids per year would cost £416,500.00.

The above processes are considered to be an acceptable approach to meeting the new requirements of L8 and HSG274 Part 1 - 3.

Benchmarking

- LA1 - Currently risk assess and manage non-domestic assets. They are looking into domestic properties.
- HA2 - Currently only risk assess and manage their care and support properties. No decision on domestic properties.
- LA3 - Currently risk assess and manage non-domestic assets. No information regarding general domestic dwellings.
- HA4 - Currently risk assess and manage non-domestic assets. They are also looking into domestic properties.
- LA5/ - Currently have an on-going programme which will risk assess the high risk properties (stored water). In their void properties they have instigated a fortnightly flushing regime. They have developed a water hygiene leaflet and will in the near future be sending it out to their tenants.

