



Jacobs Lodge

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INTRODUCTION

This report relates to a **Review** of the Legionella Risk Assessment that was carried out by Freeston Water Treatment in February 2008; this is the latest Risk Assessment for this building. The Review Survey was carried out at Jacobs Lodge, Jacobs Gutter Lane, Hounslow, Southampton, Hampshire SO40 9FT. The Review of Recommendations highlighted in the previous Risk Assessment was undertaken in order to comply with the Health and Safety Executive requirements on the control and prevention of Legionellosis. This Review has been carried out as asked for by Hampshire County Council in accordance with ACoP L8 'The control of Legionella bacteria in water systems' (APPROVED CODE OF PRACTICE & GUIDANCE) only:

The Review has been limited to the terms of reference agreed between Hampshire County Council and Freeston Water Treatment Ltd. Observations relating to system conditions and other factors applicable to the requirements of L8 have been recorded during the Survey and specific references are made to compliance with the ACoP in the Observations section of the report.

A recommendations section concludes the report. ACoP L8 places responsibility on employers and others to prepare a scheme for preventing or controlling the risk from Legionellosis. Adoption of a monitoring scheme in conjunction with a regime of preventative maintenance and associated record keeping will meet these requirements.

BACKGROUND TO LEGIONELLA

Legionella is the bacterium that causes Legionnaires disease. Of this bacterium, Legionella pneumophila is the species most commonly associated with disease outbreaks. Legionnaire's disease is identified as a pneumonia type of infection of the lower respiratory tract. The infection is most commonly acquired by the inhalation of airborne droplets or particles containing viable Legionella. Exposure to Legionella can also cause a short feverish illness without pneumonia, known as Pontiac Fever.

Research and investigations indicate that the occurrence of Legionella contamination is greatest in water cooling towers, evaporative condensers, hot and cold water services, water spray humidifiers, air washers, spa baths and pools where water is agitated and re-circulated. The contamination from a cooling water tower will cover a far larger area than any other likely source.

Sediment, scale, and organic materials present in water systems can provide nutrients and give protection for Legionella. Legionella has been shown to colonise certain types of water fittings, pipe work and materials used in the construction of water systems. The presence of these materials may provide nutrients for Legionella and make eradication difficult. Other organisms in water systems such as bacteria, amoeba and algae can provide a suitable habitat and nutrients in which Legionella can survive and multiply.

The formation of biofilms within water systems is undesirable and may also provide harbourage and favourable conditions for Legionella growth. The presence of Legionella in biofilms and in enclosures within protozoa may protect the organisms from any remedial measure employed to eradicate the bacterium.

Legionella is most likely to proliferate in water systems that have a temperature between 20°C and 50°C. Human blood temperature of approximately 37°C is the most ideal temperature for proliferation. Stagnant water within the above temperature range appears to provide the ideal conditions for proliferation of Legionella.

Legionella will survive at temperatures below 20°C but is considered to be in a dormant state with no growth activity. The bacterium does not survive temperatures maintained consistently at 60°C or above.

REVIEW COMPLIANCE

The Review was commissioned in order to identify and assess the risk of Legionellosis from the water sources on the premises using the previous Risk Assessment. General and specific observations on the systems made during the course of the Survey are also recorded and the more general requirements of L8 are also commented on where applicable.

The specific observations made in this Review, together with the most recent Risk Assessment should be read in conjunction with the practices and procedures detailed in the recommendations section and also with ACoP L8.

The Assessment should be reviewed regularly (at least every two years) and whenever there is reason to suspect it is no longer valid. An indication of when to review the Assessment and what needs to be reviewed should be recorded.

This may result from example:

Changes to the water system or its use

Changes to the use of the building in which the water system is installed

The availability of new information about risks or control measures

The results of checks indicating that control measures are no longer effective

A case of Legionnaires disease/Legionellosis is associated with the system

SITE REVIEW

This Review relates to observations made and information supplied from the existing Risk Assessment together with information supplied by others.

During this Review Survey it was identified that temperature monitoring of the domestic water system is being carried out but only on the hot water system. The Hampshire County Council logbook has not been issued to this site; some log sheets have been prepared and are in use but the procedures in place and current logbook do not conform to the requirements of the ACoP L8. I would recommend that Hampshire County Council provide this site with the logbook that has been issued to other council properties as soon as possible and procedures and checks be explained to the site staff.

The logbook system that is in place at Jacobs Lodge did not have the duty holder, responsible person and operational staff nominated in writing. The hot water calorifier is only being monitored on the flow; there is a return system fitted therefore the return should be monitored monthly and also recorded in the logbook. Temperature monitoring is being carried out in all areas weekly but as already mentioned on the hot water system only; the cold water system should also be monitored and recorded. I was informed weekly flushing is being carried out when the temperature monitoring is done; there are no log sheets for weekly flushing in the logbook. TMV temperature monitoring is not being carried out, again there are no log sheets for this to be recorded on; TMV servicing was last carried out in August 2010; this was carried out by contractors Carillion.

The procedures which have been implemented by Hampshire County Council regarding the showerheads is not being carried out and recorded within the logbook documentation. There were no records within the logbook to indicate when the showerheads were last cleaned. It was recommended in the original Risk Assessment that the adjustable showerheads be replaced with non adjustable type; this has been carried out.

COLD WATER STORAGE

There is no cold water storage within Jacobs Lodge all water services are supplied directly from the mains water service. The old cold water storage tank located at height within the boiler room has been drained and disconnected from the water services.

Old cold water storage tank has been drained and disconnected from the water services.



HOT WATER STORAGE

Hot water storage within Jacobs Lodge is by one Andrews hot water calorifier located within the boiler room; the calorifier has a capacity of 297 litres. The calorifier has factory fitted insulation located beneath the outer metal casing; the calorifier has a return system this is fitted with a single return pump. At the time of the original Risk Assessment it was recommended that temperature gauges be fitted to the flow and return pipe work to aid with monthly temperature monitoring; this has been carried out.

Monthly temperature monitoring of the return system is not being carried out and recorded in the logbook documentation; I would recommend this is started as soon as possible and recorded when carried out.

Domestic water services should operate at temperatures that prevent the proliferation of Legionella. L8 specifies that hot water should be stored at no less than 60°C and distributed at no less than 50°C, obtainable at user outlets within one minute of opening.

The calorifier flow and return temperatures at the time of this Review were:

Main Calorifier Flow	63.0°C	This is Satisfactory
Calorifier Return	56.2°C	This is Satisfactory

Jacobs Lodge domestic hot water calorifier; good storage temperature recorded at the time of this Review.



Calorifier hot water circulating / return pump. Temperature monitoring should be carried out monthly on flow and return system.



GENERAL

There are two showers within Jacobs Lodge; it was recommended in the original Risk Assessment that the adjustable showerheads be replaced with non adjustable showerheads, this has been carried out. The procedures implemented by Hampshire County Council regarding the cleaning and disinfection and descaling are not being carried out and recorded within the logbook documentation. At the time of this Review there were no records seen for any showerhead cleaning being carried out; it must be ensured the showerheads are cleaned and disinfected/descaled at least on a quarterly basis or as required.

All tap outlets and infrequently used outlets within Jacobs Lodge are being flushed on a weekly basis but is not being recorded within the water systems logbook when carried out.

Scale build up on tap outlets can act as a nutrient for bacteria proliferation; I would recommend that tap outlets be cleaned and descaled on a regular basis.

The TMV's within Jacobs Lodge are being serviced and maintained by contractors Carillion; this is assumed being carried out on an annual basis. All maintenance records are being filed in the in use water systems file / logbook. The TMV's within Jacobs Lodge are adjusted to meet the correct water temperatures by contractors during servicing and maintenance; this was last carried out in August 2010.

It is unknown when Legionella or bacteriological samples were last taken; it was recommended in the original Risk Assessment that this is carried out on an annual basis or more frequently in areas with 'at risk patients', for example those who are Immuno-Compromised; no records were seen for water sampling at the time of this Review.

General

Ensure all showers are used regularly and start cleaning and disinfection regime as implemented by Hampshire County Council as soon as possible.



Showerheads have been changed to the non adjustable type as in photo.



Continue to service, maintain and adjust if required all TMV's; record when carried out.



HOT & COLD WATER TEMPERATURES

Domestic water services should operate at temperatures that prevent the proliferation of Legionella. L8 specifies that hot water should be stored at no less than 60°C and distributed at no less than 50°C, obtainable at user outlets within one minute of opening. Cold water should be stored and distributed at no more than 20°C.

The following water temperatures were taken at random as follows:-

Main Kitchen Sink		
Hot	57.0°C to TMV	Satisfactory
	41.0°C from TMV	Satisfactory
Cold	16.1°C	Satisfactory
Laundry Sink		
Hot	60.5°C	Satisfactory
Cold	15.3°C	Satisfactory
Visitors Toilet Wash Basin		
Hot	58.0°C to TMV	Satisfactory
	43.6°C from TMV	Not Satisfactory
Cold	17.4°C	Satisfactory
Disabled Toilet Wash Basin		
Hot	58.0°C to TMV	Satisfactory
	41.6°C from TMV	Not Satisfactory
Cold	15.3°C	Satisfactory

Shower Room Wash Basin		
Hot	56.0°C to TMV 42.6°C from TMV	Satisfactory Not Satisfactory
Cold	15.7°C	Satisfactory
Cleaners Room Butler Sink		
Hot	58.5°C	Satisfactory
Cold	16.1°C	Satisfactory

TMV temperature reference from NHS Estates Guidance (1988) and Thermostatic Mixing Valve Manufacturers Association (TMVA).

RECOMMENDATIONS & SUMMARY

During the Risk Assessment several items were recommended:-

Commence temperature monitoring of the domestic hot and cold water system and record in the logbook.

Temperature monitoring is only being carried out on the hot water system only; there is no Hampshire County Council logbook in place at this site. I would recommend a new logbook be issued to this site as soon as possible and all procedures and checks recommended in the ACoP L8 and Hampshire County Council be put in place.

Manually check circulating pump monthly to ensure effective operation.

No record of this being carried out.

Fit temperature gauge to flow pipe work on calorifier.

This has been carried out; both flow and return temperatures should be recorded on a monthly basis.

Ensure calorifier is adjusted to achieve a storage temperature of 60°C and return temperature of 50°C.

Good storage and return temperatures were recorded at the time of this Review.

Purge calorifier to drain at least six monthly and record when carried out and condition of water.

No record of this being carried out.

Twice weekly flushing of all low use infrequently outlets - showers, toilets, hand basins, sinks, hose reels etc and record when carried out.

All tap outlets and infrequently used outlets are being flushed weekly but this is not recorded when carried out.

Bacteriological and Legionella water samples to be taken annually or more frequently if temperatures fall outside limits or the home has 'at risk' clients.

No record of any water sampling being carried out.

Thermostatic mixing valves should be serviced and maintained as per the manufacturer's recommendations.

This is assumed being carried out on an annual basis by Carillion; this was last carried out in August 2010.

Thermostatic mixing valves to be adjusted to achieve the correct outlet temperatures.

This is being carried out at the time of the service and maintenance schedule.

Clean and disinfect showerheads quarterly. Record when carried out.

There are no records in the logbook that is in use indicating when the showerheads were last cleaned and disinfected. This should be carried out at least on a quarterly basis or as required and recorded when carried out.

Replace adjustable spray showerhead with non adjustable item as recommended in HTM 04-01.

This has been carried out.

Replace the shower hose in the laundry with a shorter WRAS approved item to ensure against backflow contamination of the mains water.

The shower hose has been clipped in place to prevent it from falling into the sluice.

It is recommended that the following are carried out:-

- Issue a Hampshire County Council logbook to Jacobs Lodge as soon as possible and start all current checks and procedures recommended in the ACoP L8 and those implemented by Hampshire County Council.
- Continue monthly temperature monitoring of all domestic sentinel hot water outlets and start monitoring cold water outlets along with additional outlets and record in water systems logbook.
- Start monthly temperature monitoring of the hot water calorifier flow and return temperatures and record in water systems logbook.
- Start showerhead cleaning and descaling as implemented by Hampshire County Council or at least on a quarterly basis; record in logbook when carried out.
- Start monthly TMV temperature monitoring at sentinel outlets water flow to TMV and record in water systems logbook.
- Start purging calorifiers to drain on at least a six monthly basis and record in the water systems logbook when carried out.
- Bacteriological and Legionella water samples to be taken annually or more frequently if temperatures fall outside limits or the home has 'at risk' clients.

SUMMARY

As reported the water systems logbook has not been issued by Hampshire County Council to Jacobs Lodge; temperature monitoring is being carried out by site staff but this does not conform to the requirements of the ACoP L8 and procedures implemented by Hampshire County Council. I would recommend a logbook be issued as soon as possible and all procedures and checks be explained to the site staff.

It should be ensured that the calorifier flow and return monthly temperature monitoring is carried out and recorded in the water systems logbook; the circulating return pump should be checked for the correct operation on a monthly basis.

Temperature monitoring must be carried out on the hot and cold water systems at least on a monthly basis; sentinel TMV's must also be temperature monitored and recorded when carried out.

It should be ensured that the water systems logbook when issued be audited on a monthly basis by the site manager and the relevant section in the logbook be signed when carried out; this will ensure all the checks and procedures that are in place are being carried out and are maintained up to date.

I would recommend that the procedures and checks recommended in the ACoP L8 and those that have been implemented by Hampshire County Council be started as soon as possible and recorded within the logbook documentation.