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INTRODUCTION

Client Address	Hampshire County Council PBRS Three Minsters House 76 High Street Winchester Hampshire SO23 8UL
Site Name	Fleming House OPH
Site Address	Heron Square Eastleigh Hampshire SO50 9JD
Site contact	Wendy Burrett
Site telephone number	02380 626640
Last risk assessment carried out by	Freeston Water Treatment Limited
Date of risk assessment	April 2011
Date of previous review	N/A
Date of new review	22nd March 2012
Review carried out by	Mr Chris Wilson

This Review has been carried out in accordance with ACoP L8 'The control of Legionella bacteria in water systems' (APPROVED CODE OF PRACTICE & GUIDANCE) and BS 8580 (RISK ASSESSMENTS FOR LEGIONELLA CONTROL-CODE OF PRACTICE).

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The Assessment should be reviewed regularly (at least every two years) and whenever there is reason to suspect it is no longer valid.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.

LOG BOOK

Is there a copy of the last Risk Assessment carried out on the domestic water system?	Yes	A copy of the original Risk Assessment was seen filed within the senior nurse office.
Is there a domestic water systems logbook in place?	Yes	A water systems log book is in place and this was located within the senior nurse office.
Are the management structure duty holder, responsible person and deputies nominated in writing?	Yes	The duty holder and responsible person have been nominated in writing but no deputy responsible persons have been nominated.
Are contact details written in writing within the logbook documentation?	Yes	The contact details for the duty holder and responsible person was seen written within the logbook documentation.

MONITORING

Is hot water temperature monitoring being carried out on a monthly basis and results recorded within the logbook documentation?	Yes	Monthly temperature monitoring of the domestic hot water system is being carried out and recorded in the relevant section of the logbook.
Is cold water temperature monitoring being carried out on a monthly basis and results recorded within the logbook documentation?	Yes	Monthly temperature monitoring of the domestic cold water system is being carried out and recorded in the relevant section of the logbook.
Are hot water calorifier flow temperatures being taken and results recorded within the logbook documentation?	Yes	Monthly temperature monitoring of the hot water calorifiers storage temperatures are being carried out and recorded in the relevant section of the logbook.
Are hot water calorifier return temperatures being taken and results recorded within the logbook documentation?	Yes	Monthly temperature monitoring of the hot water calorifiers return temperatures are being carried out and recorded in the relevant section of the logbook.
Are monitoring records recorded within the logbook documentation up to date?	Yes	Monitoring was up to date at the time of this Review.
Is weekly flushing of infrequently used outlets being carried out and recorded within the logbook documentation?	Yes	It should be ensured that all infrequently used outlets are flushed through at least on a weekly basis; record in logbook documentation when carried out.

COLD WATER STORAGE

Have cold water storage tanks where fitted been cleaned and disinfected annually?	Yes	The cold water storage tank is being cleaned and disinfected annually if required.
Have storage tank cleaning and disinfection certification been filed within the logbook documentation?	No	No storage tank cleaning and disinfection certification was seen within the logbook documentation.
Storage tank cleaning and disinfection was last carried out on?		25 th May 2011
Are water storage tanks being inspected on a six monthly basis and temperatures recorded within the logbook documentation when carried out?	No	The cold water storage tank should be inspected on a six monthly basis and temperatures from the tank and remote from the ball valve be recorded within the logbook documentation.

SHOWERS

Are showerheads being cleaned and descaled on a quarterly basis or as required?	Yes	All showerheads and hoses are being inspected / cleaned and descaled at least quarterly or as required.
Is it being recorded within the logbook documentation when showerheads are cleaned and descaled?	Yes	Showerheads are being inspected /cleaned and descaled and documented within the logbook documentation when carried out.
Is showerhead cleaning and descaling up to date?	Yes	Showerhead inspection / cleaning and descaling was up to date at the time of this Review.

DRAWINGS

Are schematic drawings up to date with any changes made to the domestic water systems?	Yes	Schematic diagrams are filed within the Risk Assessment. It is thought that no changes have been made to the systems.
Are schematic drawings suitable and show all relevant storage and system details?	Yes	Schematic diagrams were seen to show relevant storage areas and system details. Copies should be filed within the logbook documentation.

TMV's

Are TMV's where fitted being serviced and maintained?	Yes	TMV's should be serviced and maintained as directed by the manufacturers.
Is documentation available to indicate when TMV's were last serviced / maintained?	Yes	TMV's should be serviced and maintained as directed by the manufacturers; and recorded within the logbook documentation when carried out. Records within the logbook show that this was last carried out on 9 th March 2011.

SAMPLING

<p>Has any Legionella or bacteriological water sampling been carried out on the domestic water systems?</p>	<p>No</p>	<p>Legionella water sampling should be carried out on the domestic water systems if the relevant water temperatures as recommended in the ACoP L8 and BS8580 are not constantly maintained. No records of sampling being carried out were seen within the logbook.</p>
<p>Have Legionella or bacteriological water sampling test results if taken been filed within the logbook documentation?</p>	<p>No</p>	<p>No records of sampling being carried out were seen within the logbook.</p>

REMEDIAL WORKS

<p>Has any remedial works identified within previous Risk Assessments / Reviews been carried out?</p>	<p>Yes</p>	<p>Remedial works highlighted within the Risk Assessment have been carried out in most areas.</p>
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ANCILLARY EQUIPMENT

<p>Is there any ancillary equipment on site?</p>	<p>Yes</p>	<p>Main kitchen - water softener</p>
<p>Is ancillary equipment being serviced and maintained to the manufacturer's recommendations?</p>	<p>No</p>	<p>Main kitchen - water softener This may require servicing and disinfecting; this has not been carried out. I would recommend that the manufacturer is contacted for maintenance recommendations.</p>

HOT WATER STORAGE

Hot water storage at Fleming House - OPH is by two calorifiers located within the Boiler Room. The calorifiers were manufactured by AVC and are supplied by the domestic cold water storage tank within the loft via a pressure reducer and booster pump set. The calorifiers have insulation under the factory fitted metal outer casings, are of a stainless steel construction and are indirectly heated by the heating boilers. There is a return system fitted to the calorifiers which has one circulation pump on the common return header that at the time of the survey appeared to be working correctly.

The booster pump set has two pumps that appeared to switch automatically.

I would recommend that the calorifiers be purged to drain to check the water quality on at least a six monthly period and recorded within a water systems logbook when carried out. It is not thought that this is being carried out.

L8 recommends that calorifiers are checked internally for scale and sludge on an annual basis. It is not thought that this is being carried out.

There is a temperature gauge on each unit to show the storage temperature and also temperature gauges on the individual flow and return pipes.

L8 recommends hot water storage to be a minimum of **60°C** and the return to be maintained at a minimum of **50°C** at all times.

The temperature of the water at the time of the Survey was:-

Calorifier No. 1	Storage	63.0°C	Satisfactory
Calorifier No. 1	Return	57.0°C	Satisfactory
Calorifier No. 2	Storage	65.0°C	Satisfactory
Calorifier No. 2	Return	57.0°C	Satisfactory

COLD WATER STORAGE

Domestic cold water storage at Fleming House - OPH consists of one domestic cold water storage tank located within the roof space. There is also a water storage tank for the fire sprinkler system. As this is a 'closed system' it does not pose a legionella risk in normal operation and is therefore not covered by this survey.

The domestic cold water storage tank is of a double skinned GRP construction and is in good condition. There is a screened vent on the lid and a screen on the overflow pipe. This vessel is over 1000 litres in capacity and should therefore have an overflow warning pipe fitted, this should have a WRAS (Water Regulations Advisory Scheme) approved insect screen fitted.

This vessel has integral insulation to the body and lid but the lid hatch is single skinned and not insulated, I would recommend that this be insulated if water temperature becomes elevated to near 20°C in the hotter months.

There is a good cross flow of water through the tank with the inlet and outlet being at opposing ends of the vessel.

The inside of the tank showed a light deposit of sediment on the base, a medium amount of biofilm on the sides and heavy staining from a sealant on the stainless steel bolts. Sediment, corrosion and biofilm act as nutrients and an ideal environment for the proliferation of bacteria including legionella.

This tank was last cleaned and disinfected on 25th May 2011 I recommend that this be carried out again within the near future.

The cold water storage temperature of the tank was:-

12.7°C Satisfactory

COLD WATER STORAGE TANKS PHOTOGRAPHS

Internal view of cold water storage tank no. 1.



ADDITIONAL PHOTOGRAPHS

Boiler Room

Dead leg on the flow pipe of calorifier no. 1.



Boiler Room

Dead leg on the flow pipe of calorifier no. 2.



Boiler Room

Dead leg on the common return pipe of calorifiers.



SELECTED HOT & COLD WATER TEMPERATURES TAKEN AT REVIEW

Domestic water services should operate at temperatures that prevent the proliferation of Legionella. ACoP 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, obtainable at user outlets within two minutes of opening.

The temperature of mixed/ blended water from thermostatic mixing valves should be no more than 43°C to prevent scalding and ideally no less than 39 °C.

The following hot and cold water temperatures were taken at selected outlets as follows:-

Location	Hot °C	Cold °C	Mixed °C	Comments
Kingfisher Wing Staff Room Kitchen Sink	56.7	11.3	42.4	Satisfactory
Kingfisher Wing Medical Room Sink	58.5	12.2	42.1	Satisfactory
Swan Wing Kitchen Sink (Rear)	57.1	10.5	N/A	Satisfactory
Swan Wing Laundry Sink	55.7	10.5	43.9	Not Satisfactory

RECOMMENDATIONS

- Dead leg pipework are ideal areas for the proliferation of bacteria and should be removed or put on a weekly flushing regime (without creating an aerosol) and recorded. Dead legs were found in the following areas:-
 - Boiler Room - There is a pig tail type dead leg pipe to the gauge on the flow pipe of calorifier no. 1.
 - Boiler Room - There is a pig tail type dead leg pipe to the gauge on the flow pipe of calorifier no. 2.
 - Boiler Room - There is a pig tail type dead leg pipe to the gauge on the common return pipe of the calorifiers.
- Purge the calorifier to drain on at least an annual basis and record when carried out.
- If access allows, visually inspect the calorifier internally for scale and sludge on an annual basis.
- Commence six monthly temperature monitoring of the cold water storage tank and record results within the logbook.
- Clean and disinfect the domestic cold water storage tank within the near future. Inspect the tank annually and repeat if required.
- Fit a screened overflow warning pipe to the domestic cold water storage tank.
- There is a water softener for the dishwasher within the main kitchen. This should be disinfected and maintained in line with the manufacturer's recommendations. It is unknown if this is being carried out.
- Ensure deputy responsible persons are appointed and are competent and adequately trained.

- Ensure the maintenance operative on site is competent and adequately trained in Legionella management.

SUMMARY

Since the Risk Assessment was carried out a new water systems logbook has been put in place for 2012 and is in use.

A new maintenance operative has been appointed since the Risk Assessment and as no training records were seen within the logbook I would recommend that he be adequately trained in Legionella management as soon as is practicable.

Most of the remedial works have been carried out by Freeston Water Treatment Limited since the last Risk Assessment and this is an ongoing planned maintenance agreement between Freeston and Hampshire County Council.

Completed remedial work carried at Fleming House OPH includes tank cleaning and dead leg removal.

The domestic cold water storage tank was cleaned and disinfected on the 25th May 2011 but this needs to be carried out again within the near future.

Legionella management including temperature monitoring of outlets and calorifiers; flushing of infrequently used outlets and showerhead and hose descaling is being carried and recorded.

Six monthly domestic cold water storage tank temperature monitoring and purging and descaling of the calorifiers is not being carried out.