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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	22nd March 2012
Date of new review	4th March 2014
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The Assessment should be reviewed regularly (at least every two years) and whenever there is reason to suspect it is no longer valid.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 Review 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 and the last Review were seen filed within the 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 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?	Partially	Monthly temperature monitoring of the domestic hot water system is being carried out and recorded in the relevant section of the logbook. Sentinel taps not recorded since January 2014.
Is cold water temperature monitoring being carried out on a monthly basis and results recorded within the logbook documentation?	Partially	Monthly temperature monitoring of the domestic cold water system is being carried out and recorded in the relevant section of the logbook. Sentinel taps not recorded since January 2014.
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?	Partially	Monitoring was partially 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?	No	The cold water storage tank is not 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?		18/07/2012
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

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

TMV's

<p>Are TMV's where fitted being serviced and maintained?</p>	<p>No</p>	<p>TMV's should be serviced and maintained as directed by the manufacturers.</p>
<p>Is documentation available to indicate when TMV's were last serviced / maintained?</p>	<p>No</p>	<p>TMV's should be serviced and maintained as directed by the manufacturers; and recorded within the logbook documentation when carried out. No records were seen within the logbook to show when this was last carried out.</p>

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.</p> <p>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 some 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</p> <p>This may require servicing and disinfecting; this has not been carried out.</p> <p>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.

ACoP L8 recommends that the calorifiers be purged to drain to check the water quality on at least an annual basis and recorded within a water systems logbook when carried out. It is unknown if this is being carried out.

ACoP L8 recommends that calorifiers are checked internally for scale and sludge on an annual basis. It is unknown if 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.

ACoP L8 recommends hot water storage to be a minimum of **60°C** at all times 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	69.0°C	Satisfactory
Calorifier No. 1	Return	63.0°C	Satisfactory
Calorifier No. 2	Storage	70.0°C	Satisfactory
Calorifier No. 2	Return	63.0°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 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 the 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 to medium 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 the 18th July 2012 and I would recommend that this be carried out again as soon as is practicable.

The cold water storage temperature of the tank was:-

8.7°C Satisfactory

COLD WATER STORAGE TANKS PHOTOGRAPHS

Internal view of cold water storage tank no.

1.



ADDITIONAL PHOTOGRAPHS

DL1 Boiler Room

Dead leg on the boosted cold water supply to the 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	58.8	9.7	41.3	Satisfactory
Kingfisher Wing Medical Room Sink	62.1	10.5	41.7	Satisfactory
Swan Wing Kitchen Sink (Rear)	67.6	12.3	N/A	Satisfactory
Swan Wing Laundry Sink	62.8	8.2	41.4	Satisfactory

HAMPSHIRE COUNTY COUNCIL

ACoP L8 DOCUMENTATION/LOGBOOK AND RISK ASSESSMENT / REVIEW AUDIT

SITE NAME:	Fleming House OPH
LOCATION:	Heron Square Eastleigh Southampton Hampshire SO50 9JD
CONTACT ON SITE:	Wendy Burrett
DATE OF AUDIT:	4-3-2014
NAME OF AUDITOR:	Mr Chris Wilson Freeston Water Treatment Limited

ITEM	TASKS		COMMENTS
		YES / NO	
1.	Audit Date	4-3-2014	
2.	Site Management Audit signed	YES	
3.	Contact details complete and up to date	YES	
4.	Responsibility details complete and up to date	YES	No Deputy Responsible Person listed
5.	6 monthly water tank inspections up to date	NO	
6.	Training records present and up to date	YES	E-Learning only. Last carried out on 11-2-2014 by the Operations Manager
7.	Contractor visits recorded	NO	
8.	Monthly boiler/calorifier temps checked	YES	
9.	Monthly temperature – taps checked	YES	
10.	Weekly all outlets flushed and recorded	YES	
11.	Weekly low use outlets flushed and recorded	YES	
12.	Weekly shower disinfection and clean and recorded	YES	

13.	Quarterly shower descale and recorded	YES	
14.	Monthly sentinel taps temps checked and recorded	NO	Sentinel tap temps not taken since January 2014
15.	Six monthly temperature probe calibration	YES	
16.	Defects entry made when test off spec	NO	There is no records page within the logbook for this to be recorded
17.	Appropriate corrective action undertaken for Item 16	NO	See above
18.	Each task dated	YES	
19.	Each task signed for	YES	
20.	Laboratory TVC certificates up to date	NO	The records only show when and where the samples were taken from and <u>not</u> the actual test results
21.	Laboratory LP certificates up to date	NO	The records only show when and where the samples were taken from and <u>not</u> the actual test results
22.	Disinfection certificates up to date	NO	No cleaning and disinfection certificates were seen within either the 2013 or 2014 logbooks

ACoP L8 RISK ASSESSMENT / REVIEW AUDIT

Risk Assessment / Review Date		4-3-2014		
REF	Risk Assessment Summary of Recommendations	COMPLETE? YES / NO	COMMENTS	PIC REF
1	Boiler Room - There is a pig tail type dead leg pipe to the gauge on the flow pipe of calorifier no. 1.	YES		
2	Boiler Room - There is a pig tail type dead leg pipe to the gauge on the flow pipe of calorifier no. 2.	YES		
3	Boiler Room - There is a pig tail type dead leg pipe to the gauge on the common return pipe of the calorifiers.	NO	This is still in place but is actually on the boosted cold water supply pipe to the calorifiers, NOT the return pipe.	
4	Purge the calorifier to drain on at least an annual basis and record when carried out	UNKNOWN		
5	If access allows, visually inspect the calorifier internally for scale and sludge on an annual basis	UNKNOWN		

6	Commence six monthly temperature monitoring of the cold water storage tank and record results within the logbook.	NO		
7	Clean and disinfect the domestic cold water storage tank within the near future. Inspect the tank annually and repeat if required.	YES		
8	Fit a screened overflow warning pipe to the domestic cold water storage tank.	NO		
9	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.	NO		
10	Ensure Deputy Responsible Persons are appointed and are competent and adequately trained.	NO		
11	Ensure the maintenance operative on site is competent and adequately trained in Legionella management.	NO		

ACoP L8 AUDIT ADDITIONAL COMMENTS/FINDINGS/RECOMMENDATIONS

REF	COMMENTS	PIC REF
1	Please refer to the RECOMMENDATIONS and also the SUMMARY sections within the main Review document below for all relevant further information and conclusions.	

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:-
 - DL1 - Boiler Room - There is a pig tail type dead leg pipe to the gauge on the boosted cold water supply pipe to 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 as soon as is practicable. Inspect the tank annually and repeat if required.
- Ensure that the sentinel tap temperatures are taken on a monthly basis and recorded.
- 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.

- The access hatch to the roof space by the domestic cold water storage tank needs attention. There is a great deal of weight on the hinged hatch door and the whole of this weight is currently being held by two screws on the lock, if the bolts were to give way it could drop and cause someone a very serious head injury. As a minimum the hatch should have retaining chains to stop it falling any further than is needed to reach in and unhook the chains.
- Ensure that all Arjo / Malibu etc. type baths are serviced and maintained in line with the manufacturers recommendations e.g. seals and hoses changed, filters cleaned and disinfected etc. This should all be recorded within a logbook when carried out. No records were seen within the logbook relating to this being carried out.
- Monthly temperature monitoring of all the sentinel and a representative amounts of hot and cold outlets is being carried out and recorded. On non-sentinel outlets, where TMV's (Thermostatic Mixing Valves) are fitted, the temperature is only being taken from the blended water at the outlet. It should be ensured that it is taken from the hot pipe immediately before it enters the TMV.
- Ensure Deputy Responsible Persons are appointed and are competent and adequately trained.
- Records within the Nursing Logbook state that the Operations Manager undertook an 'E-Learning' Legionella course on the 11th February 2014. I would recommend that **full** Legionella training be given to any staff involved with Legionella management.
- A Written Scheme should be prepared to ensure that all necessary controls are maintained, monitored and remain effective.

BS8580 states – ‘Note - the Risk Assessment does not involve the preparation of the written scheme but rather provides information that is critical to the preparation’.

Regulations and guidance regarding the Written Scheme can be found in ACoP L8 Paragraphs 52-76.

SUMMARY

Since the 2012 Risk Assessment Review was carried out a new water systems logbook has been put in place for 2014 and is in use.

A new maintenance operative was employed but has now left leaving other staff to carry out Legionella management and I would recommend that **all** such staff be fully trained in Legionella management as soon as is practicable.

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

Completed remedial work carried out at Fleming House OPH includes dead leg removal.

The domestic cold water storage tank was cleaned and disinfected on the 18th July 2012 but this needs to be carried out again as soon as is practicable.

Legionella management including temperature monitoring of outlets and calorifiers; flushing of infrequently used outlets and showerhead and hose descaling is being carried and recorded in most cases but is not up to date in all. On non-sentinel outlets, where TMV's (Thermostatic Mixing Valves) are fitted, the temperature is only being taken from the blended water at the outlet. It should be ensured that it is taken from the hot pipe immediately before it enters the TMV.

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

Ensure that all Arjo / Malibu etc type baths are serviced and maintained in line with the manufacturer's recommendations e.g. seals and hoses changed, filters cleaned and disinfected etc. This should all be recorded within a logbook when carried out. No records were seen within the logbook relating to this being carried out.

The access hatch to the roof space by the domestic cold water storage tank needs attention. There is a great deal of weight on the hinged hatch door and the whole of this weight is currently being held by two screws on the lock, if the bolts were to give way it could drop and cause someone a very serious head injury. As a minimum the hatch should have retaining chains to stop it falling any further than is needed to reach in and unhook the chains.

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