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INTRODUCTION

Client Address	**Hampshire County Council** **PBRS** **Three Minsters House** **76 High Street** **Winchester** **Hampshire** **SO23 8UL**
Site Name	**Bickerley Green OPH**
Site Address	**Kingsbury Lane** **Ringwood** **Hampshire** **BH24 1EL**
Site contact	**Jacquie Milford**
Site telephone number	**01425 473312**
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	**4th April 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The Assessment should be reviewed regularly (at least every two years) and whenever there is reason to suspect it is no longer valid.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 admin office.
Is there a domestic water systems logbook in place?	Yes	A water systems log book is in place and was being used at the time of this Review; this was located within the main 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 flow is 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 is 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?	N/A	There are no domestic cold water storage tanks on site
Have storage tank cleaning and disinfection certification been filed within the logbook documentation?	N/A	There are no domestic cold water storage tanks on site
Storage tank cleaning and disinfection was last carried out on?	N/A	There are no domestic cold water storage tanks on site
Are water storage tanks being inspected on a six monthly basis and temperatures recorded within the logbook documentation when carried out?	N/A	There are no domestic cold water storage tanks on site

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 were 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?	No	TMV's should be serviced and maintained as directed by the manufacturers; and recorded within the logbook documentation when carried out. I was informed that an outside contractor carried out servicing an adjustment on the TMV's approximately six months ago but no records were found within the logbook.

SAMPLING

Has any Legionella or bacteriological water sampling been carried out on the domestic water systems?	Yes	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.
Have Legionella or bacteriological water sampling test results if taken been filed within the logbook documentation?	Yes	Documentation within the logbook stated that Hampshire Scientific Service had taken water samples on the 2nd April 2012 but no results had yet been received. Ensure all water sampling test results if taken are filed within the relevant section of the water systems logbook.

REMEDIAL WORKS

Has any remedial works identified within previous Risk Assessments / Reviews been carried out?	Yes	Remedial works highlighted within the Risk Assessment have been carried out in some areas.

ANCILLARY EQUIPMENT

Is there any ancillary equipment on site?	Yes	Main kitchen - water softener for the dishwasher.
Is ancillary equipment being serviced and maintained to the manufacturer's recommendations?	Yes	Main kitchen - water softener for the dishwasher. This may require servicing and disinfecting; this has not been carried out. I would recommend that the manufacturer is contacted for maintenance recommendations.

HOT WATER STORAGE

Hot water storage at Bickerley Green - OPH is by two combi boiler/calorifiers located within the boiler room. The calorifiers were manufactured by Hoval and are supplied by the mains cold water supply via a pressure reducer. The calorifiers have insulation under the factory fitted metal outer casings, are of a steel construction and are directly heated by gas. There is a return system fitted to the calorifiers with one circulation pump fitted on the common return pipe which at the time of the survey appeared to be working correctly. I would recommend 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. I was informed that this is not 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 are temperature gauges on the flow and return pipes of both calorifiers.

There is an electric local water heater within the Resource Centre that supplies the toilet and kitchen areas. This heater has a small cold water header tank that should be cleaned and disinfected as regularly as needed. I was informed that this is not being carried out.

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. **I would recommend that calorifier no. 1 is adjusted to achieve this as soon as is practicable.**

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

Calorifier No 1	Storage	58.0°C	Not Satisfactory
Calorifier No 1	Return	52.0°C	Satisfactory
Calorifier No 2	Storage	68.0°C	Satisfactory
Calorifier No 2	Return	60.0°C	Satisfactory

COLD WATER STORAGE

There is no domestic cold water storage at Bickerley Green - OPH. There is a water storage tank for the fire sprinkler system of both Bickerley Green OPH and NCU. As this a 'closed system' it does not pose a Legionella risk in normal operation and is therefore not covered by this survey.

ADDITIONAL PHOTOGRAPHS

Boiler Room

Dead leg on the mains cold water pipe.

Boiler Room

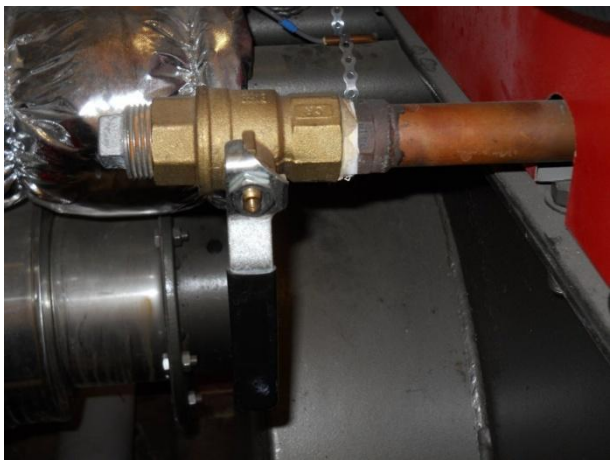
Dead legs on the flow pipe of calorifier no. 1.

Boiler Room

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

Boiler Room

Possible dead leg on the drain of calorifier no. 1.



Boiler Room

Possible dead leg on the drain of calorifier no. 2.

Main Kitchen

Dead leg at low level under the electric water boiler.

Laundry

Dead leg behind the washing machines.

Laundry

Dead leg behind the washing machines.

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 60ºC and distributed at no less than 50ºC, obtainable at user outlets within one minute of opening.

Cold water should be stored and distributed at no more than 20ºC, obtainable at user outlets within two minutes of opening.

The temperature of mixed/ blended water from Thermostatic Mixing Valves should be no more than 43ºC to prevent scalding and ideally no less than 39 ºC.

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

Location	Hot °C	Cold °C	Mixed °C	Comments
Resource Centre Kitchen Sink	54.5	11.1	N/A	Satisfactory
Blissford Wing Kitchenette Sink	47.9	13.5	43.6	Not Satisfactory
Main Kitchen Sink	59.9	16.0	41.3	Satisfactory
Main Kitchen Sink	61.1	15.0	N/A	Satisfactory
Staff Area Staff Room Sink	56.1	13.2	42.9	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 swan neck type dead leg pipe to the temperature gauge on the mains cold water pipe at height.

  - Boiler room - There is a swan neck type dead leg pipe to the temperature gauge on the flow pipe of calorifier no. 1. The pipe that it is on is to the pressure relief valve; this pipe is too long and also creating a dead leg and should be shortened as far as possible.

  - Boiler room - There is a swan neck type dead leg pipe to the temperature gauge on the flow pipe of calorifier no. 2. The pipe that it is on is to the pressure relief valve; this pipe is too long and also creating a dead leg and should be shortened as far as possible.

  - Boiler room - There is a drain valve on both combi boiler/calorifiers at mid height. If this is found to be a drain for the domestic hot water side of the boiler/calorifier then it should treated as stated above. If it is on the heating boiler side of the boiler / calorifier then it can remain unchanged as the heating system is a 'closed system' and does not create an aerosol and is therefore not a Legionella risk in normal operation.

  - Main kitchen - There is a dead leg pipe at low level under the electric water boiler.

  - Laundry - There are two dead legs behind the washing machines.

- Purge the calorifiers to drain on at least an annual basis and record when carried out.

- If access allows, visually inspect the calorifiers internally for scale and sludge on an annual basis.

- Commence monthly temperature monitoring of inlet pipe to the TMV's (not just the blended water outlet) and record in the water systems logbook.

- 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.

- I would recommend Bacteriological and Legionella water samples be taken if the temperatures fall out of the recommended limits.

- Ensure Deputy Responsible Persons are appointed and are competent and adequately trained.

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

- Adjust calorifier no. 1 to achieve a minimum storage temperature of 60°C at all times and a minimum of 50°C on the return at all times.

- If the self contained water feature in the rear garden is re-instated then I would recommend that it is dosed with an animal safe biocide to the manufacturers recommendations.

- Clean and disinfect the cold water header tank of the electric local water heater in the Resource Centre as regularly as needed.

SUMMARY

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

A new maintenance operative has been appointed since the Risk Assessment and I would recommend that he be adequately trained in Legionella management as soon as is practicable.

Some 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 Bickerley Green OPH includes some dead leg removal.

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

The hot outlet temperatures are only being taken from the outlets and not on the inlet pipework to the TMV's. I was informed that this will be carried out and recorded within the logbook in future.

Annual purging of the calorifiers and descaling is not being carried out.

The calorifier no. 1 should be adjusted as soon as is practicable to achieve a minimum storage temperature of **60°C** at all times and a minimum return temperature of **50°C** at all times.