



Legionella Risk Assessment Reviewer Guidance – Building Hot & Cold Water Systems
Reference: HSE Control of Legionella Bacteria in Water Systems: Audit Checklists C200

Sholing Technology College
Risk Assessment Review
31st May 2018



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Property Name & Description: Sholing Technology College			Review Date: 31st May 2018
Responsible Person(s) Name & SCC Appointment: Mr M Brown (Responsible Person) Mrs J Stennings (Deputy) Tom O Connor (Site Manager)			Last Review: 9th June 2016
Compliance & Control Measure Checks	Yes	No	Comments/Observations
Have there been changes (or being proposed) to the use of the property in which the water systems are installed?		NO	
Have there been changes (or being proposed) to the water systems or their use?		NO	
Is there new information about potential risks or control measures?		NO	
Do the results of monitoring indicate that control measures are no longer effective?		NO	
Are the roles & responsibilities of all staff involved in control measures clearly defined in writing including responsible persons(s) & contractors?		NO	The responsible person and deputy have been nominated in writing.
Have the persons nominated to carry out control measures including responsible person(s) received appropriate training?		NOT KNOWN	No records of training seen in the logbook documentation.
Has there been a legionella bacteria incident associated with the water systems in the property?		NOT KNOWN	



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Risk Assessment, Written Scheme & Property/System Change Checks			
Risk Assessment	Yes	No	Comments/Observations
Does the Risk Assessment identify foreseeable risks & include an up to date schematic of the water systems?			Drawings have been updated at the time of this 2018 review. Original risk assessment was not seen filed in the logbook documentation
Does the Risk Assessment include the measures & precautions to be taken to control foreseeable risks?			Original risk assessment not seen filed in the logbook
Written Scheme			
Are inspection & maintenance measures identified in the Risk Assessment being carried out?	YES		Monitoring is being carried out.
Have remedial works identified in the Risk Assessment & subsequent reviews to minimise foreseeable risks been completed?	YES		Deadleg pipe work has been removed.
Are the records of water system temperature monitoring & flushing representative of control measures, & up-to-date?	YES		Temperature monitoring is up to date as of May 2018. Flushing is carried out weekly by site staff.
Property & System Changes			
Have changes to property occupancy resulted in fewer occupants, intermittent occupation, or partial closure?		NO	
Have changes or modifications to the water systems resulted in low use outlets; dead legs; redundant service equipment or additional fittings e.g. TMV's?	YES		TMVs are fitted; showers are infrequently used and ground floor humanities block toilet not used.
Are there any other aspects of the water system including its design, operation & maintenance that have increased foreseeable risks?	YES		Any water heaters on timers should heat water to at least 60.0C for one hour prior to use. Rectify the science block return pump at the earliest opportunity and ensure calorifier maintains 60.0c.



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Risk Was (Circle)	Insignificant	Low	Medium	High	Uncertain
Risk Now (Circle)	Insignificant	Low	Medium	High	Uncertain

Remedial action to be taken	By Whom	By When
Ensure a deputy is nominated in writing within the logbook documentation. High The deputy has now been nominated in the logbook. Low		
Ensure all calorifiers achieve 60.0°C storage temperatures. High The science block calorifier was found to have low storage and return temperature. High		
Ensure any hot water calorifiers set on timers turn on early enough to bring the calorifier to 60.0°C for at least one hour prior to being used. High All other calorifiers had a good storage and return temperatures record at the time of this review. Medium		
Investigate return systems on main kitchen calorifier and science block calorifier for correct operation and maintaining at least 50.0°C at all times. High The science block return pump was very hot but the pipe work was cold faulty pump. High		
Remove deadleg pipe work. High Deadleg pipe work highlighted in previous review has been removed. Low		
Clean and disinfect cold water storage tanks and then continue annually if required. Medium The water tanks were cleaned and disinfected last in August 2017. Medium		



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Risk Now (Circle)	Insignificant	Low	Medium	High	Uncertain

Remedial action to be taken	By Whom	By When
Drain Humanities block ground floor toilet pipe work and water heater when the toilets are shut down. Medium The toilet is still not used creating deadleg pipe work and area. High		
Continue to temperature monitor hot and cold water systems on a monthly basis. Medium Monthly monitoring is being carried out. Medium		
Continue to monitor hot water calorifier flow and return temperatures and record. Medium Monthly calorifier monitoring is being carried out. Medium		
Continue to clean and descale showerheads at least on a quarterly basis or at the rate of fouling. Medium The showerheads are being cleaned on a quarterly basis; last carried out in April 2018. Medium		
Audit logbook documentation at least on an annual basis; remove old record sheets from logbook and archive to enable better access in logbook. Medium The logbook was last audited in September 2017. Medium		
Continue to flush infrequently used outlets weekly and especially during school holidays and record. Medium Flushing is being carried out by site staff. Medium		



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Compliance & Control Checks	Reviewer notes
Have responsible person(s) considered whether foreseeable risks could be eliminated?	Refer to Southampton City Council.
Have the responsible person(s) & deputies been nominated in writing?	Responsible person and deputy have been nominated in writing in the logbook documentation.
Are responsible person(s)/deputies contact details available in the event of an emergency?	No responsible person or deputies contact details were seen within the logbook documentation.
Are the roles & responsibilities of all Council staff, & contractors involved in control & compliance measures identified in writing?	No roles and responsibilities of council and contractors involved in control and compliance measures were seen in writing within the log book documentation.
Have they all received appropriate training?	No training records were seen for any staff or contractors. Refer to Southampton City Council
Has the competence of contractors been checked and appropriate documentation held on file?	Refer to Southampton City Council.
Have other Health & Safety issues been actioned e.g. COSHH/MHSWR assessments for treatment chemicals and flushing routines?	Refer to Contractors used by Southampton City Council.
Do responsible person(s) keep a log of water system defects and follow up on progress?	All system defects are assumed reported to Southampton City Council.
Do the responsible person(s) have a budget for remedial works and are they aware of the programme for completion?	Refer to Southampton City Council.



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Risk Assessment, Written Scheme & Property/System Change Checks	Reviewer notes
Does the risk assessment include all water systems in the building(s) including e.g. fire hose reels, spray fountains, dehumidifiers etc?	The Original risk assessment not seen filed in logbook documentation.
Does the water system schematic show and identify all equipment & outlets including water softeners, TMV's, pumps, principal valves, stand-by equipment, showers, washbasins, water supply origin & systems out of use etc?	Drawings have been updated at the time of this 2018 review.
Does the Written Scheme contain the following: <ul style="list-style-type: none"> •System operating instructions? •Precautions to be taken when operating the system? •Details of the monitoring checks to be carried out on the system? 	NO YES YES
Have changes to the system been recorded in the water system logbook?	No records seen within the logbook.
How are changes to the system managed & approved including approval by the responsible person(s)?	Refer to Southampton City Council.
How are remedial works co-ordinated, funded and approved including programme priorities?	Refer to Southampton City Council.



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System Design & Construction	Reviewer notes
Are the water systems designed in accordance with BS6700: 1997 & the Water Supply (Water Fittings) Regulations 1999 as amended by latest WRAS guidance?	Most pipe work now appears to be copper.
Do any of the materials used in pipe systems & fittings support bacterial growth or corrosion?	Most pipe work now appears to be copper but possible galvanised metal pipe work still exists.
If TMV's are fitted are they sited within 2m of the outlet(s) served?	Yes
Cold Water System	
Have low use outlets been installed upstream of high use outlets?	There are infrequently used outlets within the college. These are being flushed on a weekly basis by site staff and recorded on record sheets.
Has cold water storage volumes been assessed for turnover (ideally 12 hours) & stagnation risk?	Refer to Southampton City Council. One tank in the science block has been removed from the water services reducing water storage.
Is cold & hot water pipe work kept separated and adequately insulated?	Most pipe work is hidden from visual inspection.
Are cold water tanks fitted with covers & insect screens, located in a cool well-insulated space, & safely accessible?	Yes water tanks are fitted with lids and insect screens. Tanks are located within tank room on top of main building and roof space in science block.
Are multiple CWST's configured in duty/stand-by mode and not operated in parallel?	N/A



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System Design & Construction	Reviewer notes
Hot Water Systems	
<p>Is Calorifier storage capacity capable of maintaining a DHW distribution temperature of at least 50°C during maximum demand periods?</p>	<p>All calorifiers would appear capable of maintaining 50.0c during peak demands; the science calorifier was found to have a low storage at the time of this 2018 review.</p> <p><u>It should be ensured that if any calorifiers are set on timers that they come on early enough to bring the calorifier up to 60.0 for at least one hour prior to being used.</u></p>
<p>Are multiple calorifiers connected in parallel?</p>	<p>No calorifiers linked in parallel.</p>
<p>Is the calorifier(s) fitted with the following:</p> <ul style="list-style-type: none"> •Functioning drain valve? •Temperature gauges on the flow & return? •An access panel? •A shunt pump and timer, timed to heat the calorifier to over 60°C for at least an hour a day? •Adequate primary & secondary pipe work insulation? 	<p>College Calorifiers</p> <p>All calorifiers are fitted with a drain valve.</p> <p>No Calorifiers are fitted with shunt pumps.</p> <p>No calorifiers appear to be fitted with inspection doors.</p> <p>No shunt pumps fitted.</p> <p>Insulation appears adequate.</p>
<p>Do electrically heated hot water heaters deliver water instantaneously at 50°C or above?</p>	<p>Refer to temperature monitoring carried out by contractors.</p>
<p>Is there a risk of scalding e.g. in buildings used by infants (under 5 years) the disabled or the elderly?</p>	<p>Possible risk to young children.</p>
<p>Have 'Very Hot' water labels been fitted to outlets used by the public including school children?</p>	<p>Hot water warning labels are fitted in some areas.</p>



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Operation & Maintenance	Reviewer notes
Are low use outlets flushed at least weekly and records kept in the Written Scheme logbook?	Flushing is carried out and recorded on record sheets within the site managers office.
What are the procedures for bringing stand-by equipment into service?	N/A
If TMV's are fitted, are they being maintained on a 6 monthly basis and records kept in the system logbook?	No records seen for any servicing and maintenance on TMVs at the time of this 2018 review. Refer to Southampton City Council.
Are CWST's inspected at least annually to include a check that there is cross flow of water and records kept in the system logbook?	No records seen for this.
Are calorifier drains checked on a monthly basis for operation and drained water conditions checked and records kept in the system logbook?	No records were seen for this in the logbook documentation.
How is calorifier internal condition assessed and what is the periodicity of internal inspection?	Refer to Southampton City Council.
Have outlets that are no longer required been cut back to the nearest main pipe branch?	Possible deadleg pipe work seen behind the water softener in the main kitchen.
Are up-to-date O&M manuals for the water system plant held including system valve lists, and pre-start, running, and stopping check off lists?	No records seen.
Are showers & other outlets being cleaned at least quarterly and records kept in the system logbook?	Showerheads last clean and descale was carried out in April 2018; this is being carried out on a quarterly basis.



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Monitoring	Reviewer notes
Do system users carry out daily temperature monitoring checks and place records in the system logbook?	No
Are the temperatures of sentinel hot & cold-water outlets checked on a monthly basis and records kept in the system logbook?	Yes this was seen recorded in the logbook documentation.
Are the hot & cold-water temperatures from all other water system outlets checked on an annual basis and records kept in the system logbook?	Additional outlets are being monitored.
Is the temperature of the hot water supply to TMV's checked on a monthly basis and records kept in the system logbook?	Yes this was seen recorded in the logbook documentation.
Are calorifier flow & return temperatures checked on a monthly basis and records kept in the system logbook?	Yes hot water calorifier flow and returns temperatures are being monitored and recorded.
Are calorifier temperatures checked at the base mid-level and top to check for primary heating efficiency and records kept in the system logbook?	Not Known no indication given in logbook. Refer to Contractors carrying out monitoring.
Are CWST inlet & outlet temperatures checked on a 6 monthly basis and records kept in the system logbook?	No records seen for this in the logbook documentation.