



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

Moorlands Primary School

Risk Assessment Review

8th December 2014



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Property Name & Description: Moorlands Primary School			Review Date: 8th December 2014
Responsible Person(s) Name & SCC Appointment: Mr Rob Butler Site Manager			Last Review: 10th December 2012
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	A new building has been built recommend a risk assessment be carried out on the water systems.
Are the roles & responsibilities of all staff involved in control measures clearly defined in writing including responsible persons(s) & contractors?		NO	Responsible persons and deputies have been nominated in writing. No roles and responsibilities were seen in the logbook documentation.
Have the persons nominated to carry out control measures including responsible person(s) received appropriate training?		NOT KNOWN	
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?		NO	Drawings were updated at the time of this review 2014. <u>Original risk assessment not seen at the time of this review 2014.</u>
Does the Risk Assessment include the measures & precautions to be taken to control foreseeable risks?		NO	<u>Original risk assessment not seen at the time of this review 2014.</u>
Written Scheme			
Are inspection & maintenance measures identified in the Risk Assessment being carried out?	YES		Temperature Monitoring is being carried out.
Have remedial works identified in the Risk Assessment & subsequent reviews to minimise foreseeable risks been completed?	YES		Remedial works have been carried out and also a new building has been erected.
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 December 2014 <u>I was informed by the site manager that he flushed outside taps but this is not recorded.</u>
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		Deadleg pipe work seen TMVs fitted.
Are there any other aspects of the water system including its design, operation & maintenance that have increased foreseeable risks?	YES		New building requires legionella risk assessment on water systems.



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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 No.2 hot water calorifier stores hot water at 60.0c. High Both calorifiers were found to be heating up at the time of this review after being off for the weekend; low storage and return temperatures due to this. High		
Remove all deadleg pipe work. High Deadleg pipe work was seen at the time of this review. High		
Ensure shower and all associated pipe work is removed or start flushing at least on a weekly basis and record when carried out. High The shower has now been removed from the water system. Low		
Consider the removal of the cold water storage tank as it appears to serve toilet flushing only; serve toilet flushing from the mains water service this will remove the risk of stored water. Medium The cold water storage tank has now been removed from the water services. Low		
Continue to clean and disinfect the cold water storage annually if required. Medium This is no longer required. Low		



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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
<p>Flush all infrequently used outlets weekly and record when carried out. Continue during shut down periods and school holidays. Medium I was informed outside taps are flushed weekly but not recorded when carried out. Medium</p>		
<p>Clean all inline strainers on a regular basis or as part of a maintenance schedule. Medium No records seen to indicate this is being carried out. Medium</p>		
<p>Maintain and service TMV (blender valves) as per manufacturer’s recommendations. Medium No records seen to indicate this is being carried out. Medium</p>		
<p>Continue to audit logbooks at least annually to determine all monitoring is being carried out correctly. Medium This has not been carried out since October 2012. Medium</p>		



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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 deputies have been nominated in writing.
Are responsible person(s)/deputies contact details available in the event of an emergency?	No responsible person or deputies contact details were found 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 found in writing within the log book documentation.
Have they all received appropriate training?	No training records were found 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 phoned through to Southampton Property Services.
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?	Original risk assessment not seen at the time of this review 2014.
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 this review 2014.
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 documentation.
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?	Pipe work appeared to be mainly copper throughout the school. New copper pipe work has been installed running external to Acorn building on the roof.
Do any of the materials used in pipe systems & fittings support bacterial growth or corrosion?	If any galvanised metal is still on system this will harbour corrosion.
If TMV's are fitted are they sited within 2m of the outlet(s) served?	All appear to be within 2 metres of the outlets.
Cold Water System	
Have low use outlets been installed upstream of high use outlets?	Flushing should be carried out weekly on infrequently used outlets and during school holidays and shut down periods.
Has cold water storage volumes been assessed for turnover (ideally 12 hours) & stagnation risk?	Water storage tank has now been removed from the water systems.
Is cold & hot water pipe work kept separated and adequately insulated?	Most pipe work runs within the ceiling voids I was unable to access this area. The hot water flow and return pipe work was seen insulated in toilet areas as is the new mains water pipe work running on the roof of the building.
Are cold water tanks fitted with covers & insect screens, located in a cool well-insulated space, & safely accessible?	N/A tank removed
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	
Is Calorifier storage capacity capable of maintaining a DHW distribution temperature of at least 50°C during maximum demand periods?	2 x Hamworthy gas fired calorifiers capable of maintaining temperatures. Temperatures were low at the time of this review due to them heating up after being off for the weekend.
Are multiple calorifiers connected in parallel?	Yes x 2
Is the calorifier(s) fitted with the following: <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? 	Both Calorifiers Yes Flow pipe work only Yes No Yes
Do electrically heated hot water heaters deliver water instantaneously at 50°C or above?	Refer to contractors temperature monitoring records.
Is there a risk of scalding e.g. in buildings used by infants (under 5 years) the disabled or the elderly?	Possible risk to young children.
Have 'Very Hot' water labels been fitted to outlets used by the public including school children?	Hot water warning labels are fitted.



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Operation & Maintenance	Reviewer notes
Are low use outlets flushed at least weekly and records kept in the Written Scheme logbook?	Outside taps are being flushed weekly but not recorded when carried out.
What are the procedures for bringing stand-by equipment into service?	No standby equipment.
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 maintenance being carried out.
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?	N/A tank removed from water system.
Are calorifier drains checked on a monthly basis for operation and drained water conditions checked and records kept in the system logbook?	No records of calorifier drain purging seen.
How is calorifier internal condition assessed and what is the periodicity of internal inspection?	No records found Refer to Southampton City Council.
Have outlets that are no longer required been cut back to the nearest main pipe branch?	Deadleg pipe work seen.
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?	N/A shower now removed



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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 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?	Yes additional outlets checked monthly.
Is the temperature of the hot water supply to TMV's checked on a monthly basis and records kept in the system logbook?	Yes records of temperature monitoring of the TMVs was seen within the logbook documentation.
Are calorifier flow & return temperatures checked on a monthly basis and records kept in the system logbook?	Yes records of the hot water calorifier flow and return temperatures are being recorded within the logbook documentation.
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?	N/A storage tank removed.