

1. AIMS OF SECTION

- ▶ To provide details as to the location of the legionella risk assessment.
- ▶ Provide monitoring forms for the control of legionella in hot and cold water systems, cooling towers and other risk systems.

2. INSTRUCTIONS

UK Hotels

- ▶ Monitoring documentation provided by Waterpure should be utilised and filed in that manual.

France, Germany and the Middle East

- ▶ File in this section of the manual a copy of the Legionella Risk Assessment or details of its location.
- ▶ Action the recommendations of the Risk Assessment. Details of the action taken must be present on the Risk Assessment. The control measures required by the Approved Code of Practice and Guidance (L8) and any additional controls identified by the assessment must be implemented.
- ▶ Little used outlets should be flushed through for several minutes on a weekly basis. A record should be made using **FORM 1**.
- ▶ Locate the nearest and furthest hot, cold water outlets and thermostatic mixing valves on each loop.
- ▶ Undertake monthly temperature (and chlorine dioxide if appropriate) checks and record on **FORM 2 AND FORM 2A** (for chlorine dioxide). If thermostatic mixing valve temperatures cannot be achieved by measuring the water temperatures, then a surface or infra-red probe should be used on the inputs to the valve.
- ▶ The showerheads and hoses should be cleaned and descaled quarterly. The records should be noted on **FORM 3**.
- ▶ Once a year take random tap temperatures/chlorine dioxide tests should be recorded on **FORM 4 AND FORM 4A** (if appropriate).

- ▶ Every 6 months the temperature of the incoming cold water supply should be recorded at the inlet (at least once in the winter and once in the summer). Record the results on **FORM 5**.
- ▶ Once a year undertake or arrange for a check of the whole water system including tank inspection (and disinfection if necessary), draining of the calorifier(s) (and disinfection if necessary), testing of its drain water and review of schematic diagrams and the monitoring of the flow through the tank. Record results on **FORM 5**.
- ▶ **FORM 6A-D** provides guidance on the on-site monitoring checks required for good operating practice for cooling water installations (cooling towers and evaporative condensers). Parameters will depend on the operating system.
- ▶ **FORM 7** should be used to record other risk systems, eg. fountains. These should be identified within the Legionella Risk Assessment.
- ▶ **FORM 8** is used to record the checks for spa baths.
- ▶ Once a quarter the Management Checklist **FORM 9** should be signed by the General Manager to indicate compliance where appropriate.

FORM 1: LEGIONELLA WEEKLY FLUSHING OF LITTLE USED OUTLETS

OUTLETS	DATES FLUSHING CARRIED OUT	SIGNATURE
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		

FORM 2: LEGIONELLA MONTHLY TEMPERATURE CONTROL

DATE	
CHECKED BY	
LOOP NO.	

CHECK	PARAMETERS	RESULT	COMMENT/ ACTION
NEAREST COLD WATER TAP (LOCATION:)	<20°C		
NEAREST HOT WATER TAP (LOCATION:)	>50°C		
FURTHEST COLD WATER TAP (LOCATION:)	<20°C		
FURTHEST HOT WATER TAP (LOCATION:)	>50°C		
NEAREST THERMOSTATIC MIXING VALVE COLD (LOCATION:)	<20°C		
FURTHEST THERMOSTATIC MIXING VALVE COLD (LOCATION:)	<20°C		
NEAREST THERMOSTATIC MIXING VALVE HOT (LOCATION:)	>50°C		
FURTHEST THERMOSTATIC MIXING VALVE HOT (LOCATION:)	>50°C		
WATER LEAVING CALORIFIER	>60°C		
WATER RETURNING TO CALORIFIER	>50°C		

FORM 2A: LEGIONELLA MONTHLY CHLORINE DIOXIDE MONITORING

DATE	
CHECKED BY	
LOOP NO.	

CHLORINE DIOXIDE NEAREST TAP (LOCATION:)	>0.1 mg/l		
CHLORINE DIOXIDE FURTHEST TAP (LOCATION:)	>0.1 mg/l		

FORM 4A: ANNUAL LEGIONELLA CONTROL RECORD (RANDOM CHLORINE DIOXIDE CHECKS)

LOCATION OF TAP	CHLORINE DIOXIDE (> 0.1 mg/l)	COMMENT/ ACTION

NAME: **SIGNATURE:** **DATE:**

FORM 5: LEGIONELLA 6 MONTHLY/ANNUAL CHECK

CHECK	DATE OF CHECK	COMMENT/ ACTION
TEMPERATURE OF WATER AT INLET (6 MONTHLY)		
CONDITION OF TANKS		
CLEANING AND DISINFECTION OF TANKS (IF NECESSARY)		
INSECT SCREEN ON OVER FLOW PIPE TO TANK		
THERMAL INSULATION TO TANKS		
TOTAL CONSUMPTION / REASONABLE FLOW THROUGH WATER TANKS		
CALORIFIER INTERNAL INSPECTION		
DATE OF DRAINING AND DISINFECTION OF CALORIFIER (IF NECESSARY)		
CALORIFIER BACTERIAL WATER ANALYSIS TESTS		
SYSTEMATIC PLANS REVIEWED		
CHECK ON EXISTENCE OF ALL WATER CONNECTIONS TO OUTSIDE SERVICES		

NAME:

SIGNATURE:

DATE:

LEGIONELLA

FORM 6A: WEEKLY MONITORING CHECKS FOR COOLING WATER INSTALLATIONS

DATE:				
	Make up water	Cooling water	Comment/ Action	Check By
Conductivity μs (total dissolved solids)	✗	✓		
Oxidising biocide mg/l	✗	✓		
pH	✗	✓		
Microbiological activity	✗	✓		

DATE:				
	Make up water	Cooling water	Comment/ Action	Check By
Conductivity μs (total dissolved solids)	✗	✓		
Oxidising biocide mg/l	✗	✓		
pH	✗	✓		
Microbiological activity	✗	✓		

DATE:				
	Make up water	Cooling water	Comment/ Action	Check By
Conductivity μs (total dissolved solids)	✗	✓		
Oxidising biocide mg/l	✗	✓		
pH	✗	✓		
Microbiological activity	✗	✓		

FORM 6B: MONTHLY MONITORING CHECKS FOR COOLING WATER INSTALLATIONS

MONTH:					
	Make up water	Cooling water	Date	Comment/ Action	Check By
Calcium hardness as mg/l CaCO ₃	✓	✓			
Magnesium hardness as mg/l CaCO ₃	✓	✓			
Total hardness as mg/l CaCO ₃	✓	✓			
Chloride as mg/l Cl	✓	✓			
Conductivity µs (total dissolved solids)	✓	✗			
Inhibitor(s) level mg/l	✗	✓			
Concentration factor	✗	✓			
Central control function					
Conductivity sensor					
Calibration					
Blowdown function					
Uniformity of water distribution					
Condition of sprays/troughs					
Eliminators					
Pack					
Pond					
Immersion heater					
Sound attenuators					
Fans					

LEGIONELLA

FORM 6C: QUARTERLY MONITORING CHECKS FOR COOLING WATER INSTALLATIONS

DATE:				
	Make up water	Cooling water	Comment/ Action	Check By
Total alkalinity as mg/l CaCO ₃	✓	✓		
Sulphate as mg/l SO ₄	✓	✓		
Suspended solids mg/l	✓	✓		
Chloride as mg/l Cl	✓	✓		
Temperature °C	✗	✓		
pH	✓	✗		
Soluble iron as mg/l Fe	✓	✓		
Total iron as mg/l Fe	✓	✓		
Microbiological activity	✓	✗		
Legionella	✗	✓		

FORM 6D: SIX MONTHLY MONITORING CHECKS FOR COOLING WATER INSTALLATIONS

DATE:		
	Comment/ Action	Check By
Clean and disinfect cooling towers/evaporative condensers, make-up tanks and associated systems, including all wetted surfaces, descaling as necessary. Packs should be removed and cleaned where practicable.		

FORM 7: OTHER RISK SYSTEMS

System	Location	Control Measures

FORM 8: MONITORING OF SPA BATHS

WEEK COMMENCING:

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Comment/ Action
Backwash sand filters (daily)								
Check water treatment (3 times per day)								
Check water treatment (3 times per day)								
Check water treatment (3 times per day)								
Clean and disinfect entire system (weekly)								

NB INITIAL BOX WHEN CHECK COMPLETED

FORM 9: LEGIONELLA – MANAGEMENT QUARTERLY CHECKLIST**DATE :**

FORM	CHECKS	SIGNATURE
FORM 1	Weekly flushing of little used outlets	
FORM 2	Monthly temperature control records Monthly chlorine dioxide records (where applicable)	
FORM 3	Quarterly showerhead cleaning records	
FORM 4	Annual random tap records	
FORM 5	6 Monthly/Annual maintenance/inspection records	
FORM 6	Cooling tower monitoring records (weekly/monthly/quarterly)	
FORM 7	Other risk systems	
FORM 8	Monitoring of spa baths	