

# **Cooling Tower Legionella Risk Assessment Checklist**

#### Introduction

This cooling tower legionella risk assessment checklist template is designed to help the responsible person audit the arrangements in place to control legionella in the cooling towers in their premises.

### The legionella responsible person

This audit provides a very useful check on the responsible persons knowledge of the cooling systems. It also checks the knowledge of others who play a role in controlling the risks from the system, for example water treatment contractors, external consultants and product suppliers. There would be no value in asking a third party to complete this audit. As the responsible person, they should have been appointed because they have sufficient authority, competence and knowledge of the systems in their workplace.

### Identifying the risk from your cooling towers

This checklist template does not form a legionella risk assessment. It has been prepared on the basis that the responsible person has already identified a risk system or systems in their workplace and that they need to put in place (or review) measures to prevent or control the risks from exposure to legionella bacteria.

## Cooling tower legionella risk assessment checklist

This cooling tower risk assessment checklist takes you through the recommended measures in the Health & Safety Executives (HSE) Approved Code of Practice (ACOP) L8 on controlling legionella bacteria in water systems. It allows you to audit the arrangements you have in place or intend to put in place.

Note - A negative answer to any of the questions indicates that you need to review the arrangements you have in place.

#### How to achieve control over your cooling systems

The checklist does not give guidance on how to achieve control, you should consult the HSE's ACOP L8 and HSG274 guidance for detail on control measures and how they are put in place and monitored. Alternatively you can contact Legionella Control International on **0161 877 0586** or email info@legionellacontrol.com.

## Auditing your legionella control systems

Using this cooling tower legionella risk assessment checklist requires you to carry out both a physical inspection of the systems as well as examining the management procedures and paperwork in place. You also need to talk to those who may have responsibilities for any aspects of the control regime.

Once complete, you should retain this cooling tower checklist as a formal record of your audit.













# **Cooling Tower Legionella Risk Assessment Checklist**

Name of Auditor			
Date of Audit			
Date of Review			
Action required (list)		Completed	
Cooling Towers  1. Has the cooling tower(s) been notif Note 1: Under the Notification of Coolin Regulations, you must notify the local of based. If it is taken out of use, you also	ng Towers and Evaporative Condensers authority in writing with details of wher		NO
Managing the risks: The wr	itten scheme		
2. Is there a written scheme for controllegionella bacteria?  Note 2: If your risk assessment has shown exposure to legionella bacteria, there in that risk.	wn that there is a reasonably foreseeab		
3. Does the scheme contain an up0to-OK)?	date plan of the system (a schematic	plan is	



















4. Does the plan show:	
all cooling towers?	
all system control valves?	
all standby equipment, eg spare pumps?	
the location of system bleed valves?	
all associated storage tanks?	
all associated pipework?	
the location of chemical dosing points and/or injection points?	
the location of the system drain valve?	
the origin of the water supply?	
any parts that may be temporarily out of use?	
5. Does the scheme contain instructions for operating the system (see Q17-21)?	
6. Does the scheme contain details of the precautions to be taken to control the risk of exposure to legionella bacteria (see Q22-26)?	
7. Does the scheme contain details of the checks that are to be carried out (and their frequency) to ensure that the scheme is effective (see Q27-38)?	
Cooling systems: Design and construction	
8. If you are installing a new tower, have you considered its position in relation to: air conditioning and ventilation inlets?	
opening windows?	
occupied areas (for example consider the population density and the proximity of those who may be more vulnerable to infection, for example in hospitals)?	
Note 3: Remember that you have duty to protect those who may be affected by the risks by your towers.	5
9. Is the tower constructed from impervious materials?  Note 4: Preserved timber can be used but it must be impervious and easy to clean and disinfect.	

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10. Are drift eliminators fitted?	
11. Are they:	 
fitted correctly?	
effective?	
Note 5: Drift eliminators do not eliminate drift but they do reduce it. You should use those which control the release of small water droplets. For example, wooden slats don't do this and must be replaced.	
12. Is the area above the pond as enclosed as possible?	
13. Are all visible surfaces free from:	
slime or algae?	
scale?	
corrosion?	
14. Does the water flow evenly across the fill pack?	
15. Have all the following been removed as far as possible:	
dead legs/blind ends?	
redundant pipework?	
redundant plant?	
16. Are those parts of the tower that become wet, accessible and/or removable for cleaning?	
Operation and maintenance	
17. Is the system in regular operation (if no, see Q20-21)?	
18. Are there procedures in place to operate standby equipment on a rotational basis?	
19. Is there an operations manual for the cooling system?	



















#### Non-regular use

20. If the tower is used intermittently or is required at short notice, is it run at least once a week, so that water treatment chemicals are circulated to all parts of the system?		
21. If the tower is out of use for longer than a week, are there procedures in place to bring the tower back into operation safely?		
Water treatment programme		
22. Is there a water treatment programme in place?		
23. Are chemicals/biocides used to control:		
scale?		
corrosion?		
fouling?		
microbiological activity?		
If no to any of the above, list methods used below.	٦	
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24. If non-oxidising biocides are used, are two used alternately?		
25. Are chemicals dosed automatically?		
26. If yes to Q25, are the pumps calibrated regularly?		
Note 5: Although there is no requirement for automatic dosing, you should consider issues associated with manual dosing - the health and safety risks, for example, manual handling and exposure to chemicals, to staff who carry out manual dosing, as well as the management of the process to make sure the frequency and rate of application are maintained.		















# Monitoring

27. Is there a daily check to make sure that the system is operating as described in the operations manual?	
28. Is there a daily visual check of the cleanliness of the water in the system?	
29. Is the physical condition of the system checked at least every week?	
30. Is the chemical composition of the cooling and make-up water monitored on a regular basis?	
Note 6: A number of different parameters are given by the HSE in ACOP L8 and HSG274 guidance. You should be clear what parameters you need to measure and what they are telling you about the operation of your cooling tower. Usual parameters that are monitored include hardness (calcium, magnesium and total hardness), conductivity and the concentration factor.	
31. Are the safe operating limits for each parameter which is being	
measured, known and recorded in the operating manual?	
32. Is the corrective action for out of limit situations known and included in the operations manual?	
33. Are results of all tests and checks recorded, together with details of any remedial action taken (if required)?	
34. Are dip slides taken on at least a weekly basis?	
35. Are slides incubated in an incubator (at 30°C for 48 hours)?	
36. Are results recorded, so trends over time can be seen?	
37. Are samples for legionella taken on at least a quarterly basis?	
38. Have the circumstances when more frequent sampling may be required been identified and recorded?	















#### **Cleaning and disinfection**

39. Is there a written procedure for regular cleaning and disinfection of the system?		
40. Does this take place at least every six months (if not, see Q43)?		
41. Does the cleaning and disinfection procedure include:		
initial concentration of oxidising biocide in use for the pre- and post-cleaning disinfection stages?		
contact time for each disinfection stage?		
methods for carrying out cleaning, including the removal of packing?		
42. If packs cannot be removed, are there alternative methods of making sure they remain clean in place (list methods below)?		
43. If the system is not shut down every six months, list reasons and alternative measures taken to ensure the cleanliness of the system below.		
44. Are measures taken to protect staff when carrying out cleaning of the tower - list precautions below?	_	

This cooling tower legionella risk assessment checklist is based on the Health & Safety Executives document "Control of legionella bacteria in water systems – Audit checklists".











