Attachment 1

Cooling Tower System
Risk Management Plan Template

Components and Format of an RMP

Generally an RMP should have a number of basic components that would include:

- Site and contact details.
- Assessment of each of the critical risks.
- Summary of the overall risk classification.
- Details of the system collected during the risk assessment process.
- Attachments or reference to other documents such as operational plans, shut-down procedures and so on.

Whilst there is no prescribed format for an RMP this template is provided as a guide. Other formats may, of course, be used.

About the Template

The template is designed to be completed:

- By landowners who have cooling tower systems on their land.
- After first reading the preceding Guide.
- After completing a thorough risk assessment as outlined in the Guide.

This process will meet the requirements of the Building Act and Regulations in terms of the development of a risk management plan.

A Risk Management Plan must be developed for every cooling tower system on the site. The Plan once developed must be kept on site.

Implementation of an Operational Program outlined in the above mentioned document would also meet the requirements of the Health *(Legionella)* Regulations.

The template is also available in Microsoft Word 2000 format at www.legionella.vic.gov.au and can be modified to use in the development of your plan.

Disclaimer

This document is intended only as a general guide to the development of Risk Management Plans for Cooling Tower Systems. No warranty as to the completeness of the information is given. The Department of Human Services and its employees disclaim all liability and responsibility for any direct or indirect loss or damage which may be suffered through reliance on any information contained in or omitted from this document, and no person should act solely on the basis of the information contained in the document without taking appropriate professional advice about obligations in specific circumstances.

1 Site and Key Contact Details

Record	Your details
Site location *(property address)*	
Type of cooling towers in the cooling tower system *(tick box)*	☐ Induced draught cross flow ☐ Induced draught counter flow ☐ Forced draught counter flow ☐ Forced draught cross flow ☐ Evaporative condenser ☐ Various (more than one type)
Number of cooling towers in system	
Cooling Tower System Number[1]	
Tower location reference *(If one exists)*	
Site owner's name/contact details *(Include company name, contact person's business and after hours telephone numbers)*	
Cooling tower system owner's name/contact details *(Include company name, contact person's business and after hours telephone numbers)*	
Who is responsible for day-to-day operation of the cooling tower system? *(Include company name, contact person's business and after hours telephone numbers)*	
Water treatment provider name/contact details *(Include company name, contact person's business and after hours telephone numbers)*	
Water sampling/laboratory contractor/contact details *(Include company name, contact person's business and after hours telephone numbers)*	
Department of Human Services Environmental Health Unit	1800 248 898

1 This is marked on the Certificate of Registration supplied by the Building Control Commission.

Attachment 1

2 Critical Risks

2.1 Stagnant Water

Stagnant Water Risk Control Strategy	**Assessment of Cooling Tower System** *(Tick box)*	**Operational or Tower System Improvement Response[2]**
Installation of a timer connected to a recirculating pump set to operate at least once a day to circulate the water	Is the system (or part of the system) idle for more than a month? ☐ Yes ☐ No	
	Where the system (or part of the system) is idle for more than a month, is a recirculating pump with a timer fitted to automatically circulate the water at regular intervals, to prevent it becoming stagnant? ☐ Yes ☐ No[3]	
Removal or activation of any 'dead legs'	Are there 'dead legs' in the system? ☐ Yes[4] ☐ No	
Other[5]		

Risk Classification for Stagnant Water Risk[6]	☐ A ☐ B ☐ C ☐ D

2 Indicate the operational program or improvements you will put in place as a result of this assessment
3 If you do not have a recirculating pump and timer installed you can address the risk by installing such a pump. You should state the date that the pump will be installed. If you do not propose to install such a pump, then you should describe how you will address the risk in the response column.
4 If you do have 'dead legs', you can address the risks by committing to removing or activating them progressively. If you have not confirmed whether you have potential 'dead legs' or where they exist to removing or activating them, you should describe how you will address the risks in the response column.
5 Use this row to describe other risks and response strategies that relate to this risk
6 Refer to Figure 12 in Section 6.2.2 of the guide and find the scenario that matches your system to evaluate the risk associated with stagnant water and your system.

2.2 Nutrient Growth

Nutrient Growth Risk Control Strategy	Assessment of Cooling Tower System	Operational or Tower System Improvement Response[7]
Identify sources of, and where possible, reduce the amount of environmental contamination	Are there factors in and around the site that may lead to environmental contamination and an increase in the level of nutrients in the cooling tower system? ☐ Yes ☐ No	
	If Yes, can you reduce the levels of contamination? ☐ Yes[8] ☐ No[9]	
Use a comprehensive water treatment program that includes a biodispersant	Do you use a biodispersant compatible with the chemicals in use (including chlorine) ☐ Yes ☐ No[10]	
Control corrosion	Do you have a corrosion control program? ☐ Yes ☐ No[11]	
Increase the frequency of cleaning	How frequently is the tower cleaned?[12] ……	
Protect the basin and 'top deck' of the tower from sunlight	Are any of the wetted surfaces exposed to sunlight? ☐ Yes[13] ☐ No	
Reduce the water temperature where possible	Can the water temperature of the tower be reduced? ☐ Yes[14] ☐ No[15]	
Other[16]		

Risk Classification for Nutrient Growth Risk [17]	☐ A ☐ B ☐ C ☐ D

7 Indicate the operational program you will put in place as a result of this assessment
8 Describe the strategies in the response column.
9 Describe how you will address the risk in the response column.
10 The Health (Legionella) Regulations require the use of a chlorine compatible biodispersant as part of the disinfection, cleaning and re-disinfection process, (as a minimum) prior to initial start up or any shut down period of greater than one month and at intervals not exceeding six months.
11 The Health (Legionella) Regulations require the treatment of the cooling tower system water with chemicals or other agents to minimise corrosion
12 The Health (Legionella) Regulations require the disinfection, cleaning and re-disinfection process to be performed prior to initial start up or any shut down period of greater than one month and at intervals not exceeding six months
13 Describe how you will address the risk in the response column
14 You should describe how and when you will reduce the temperature in the response column
15 Describe how you will address the risk in the response column
16 Use this row to describe other risks and response strategies that relate to this risk
17 Refer to Figure 12 in Section 6.2.2 of the Guide and find the scenario that matches your system to evaluate the risk associated with Nutrient Growth and your system

2.3 Poor Water Quality

Poor Water Quality Risk Control Strategy	Assessment of Cooling Tower System	Operational or Tower System Improvement Response[18]
Comprehensive water treatment program	Do you use two or more biocides in some form of rotation? ☐ Yes ☐ No[19]	
	Do you use a biodispersant compatible with the chemicals in use (including chlorine)? ☐ Yes ☐ No[20]	
	Do you treat the water with anti-corrosive chemicals? ☐ Yes ☐ No[21]	
	Have you developed control measures that are frequently measured to confirm that the water chemistry is under control? ☐ Yes[22] ☐ No[23]	
Testing for HCC	How frequently do you test for HCC?	
Testing for *Legionella*	Do you test for *Legionella?*[24]	
	How frequently do you test for *Legionella?*	
Appropriate bleed-off rates to prevent a build-up of solids	Is an automated bleed-off device installed?[25] ☐ Yes ☐ No[26]	
Install automated biocide dosing device	Do you have an automated biocide dosing device? ☐ Yes ☐ No[27]	
Install automated dosing devices for all chemicals or agents	Do you have an automated dosing devices for all chemicals/agents? ☐ Yes ☐ No[28]	
Selection of an appropriate point for chemical dosing	Does the chemical dosing occur well away from where the sampling point for bacterial tests is taken? ☐ Yes ☐ No[29]	

Poor Water Quality Risk Control Strategy	Assessment of Cooling Tower System	Operational or Tower System Improvement Response[18]
Provision of a dedicated water sampling point	Are water samples always taken from the same point? ☐ Yes ☐ No	
	If Yes, is that point clearly labelled? ☐ Yes ☐ No	
	Has a sampling tap been fitted? ☐ Yes ☐ No	
Install a side stream filter if environment is dirty	Is the environment around the tower dirty? ☐ Yes ☐ No	
	If yes, do you have a side stream filter? ☐ Yes ☐ No[30]	
Other[31]		

Risk Classification for Poor Water Quality Risk[32]	☐ **A** ☐ **B** ☐ **C** ☐ **D**

18 Indicate the operational program you will put in place as a result of this assessment.
19 The use of two biocides is recommended as a way to minimise the risks of bacteria becoming resistant to the biocide.
20 The Health *(Legionella)* Regulations require the use of a chlorine compatible biodispersant as part of the disinfection, cleaning and re-disinfection process, (as a minimum) prior to initial start up or any shut down period of greater than one month and at intervals not exceeding six months.
21 The Health *(Legionella)* Regulations require the treatment of the cooling tower system water with chemicals or other agents to minimise corrosion.
22 Describe these in the response column.
23 The monitoring of control measures can increase your confidence that the system is under control and can provide early warning when it is not. Describe how you will address the risk in the response column.
24 The Department recommends every cooling tower system be tested regularly for *Legionella* as per Section 7.4 of the RMP Guide. If you are not testing for *Legionella* describe how you will address the risks in the response column.
25 Best practice is the use of conductivity controlled meters fitted with lock out devices to prevent excessive loss of chemicals during the bleed-off process
26 Describe how you will address the risk of poor water quality in the response column.
27 Manual procedures or siphon dosing devices have inherent potential to fail and not add sufficient biocide on a continuous basis. You should describe how you will address the risks of biocide failure in the response column.
28 Manual procedures or siphon dosing devices have inherent potential to fail and not add sufficient chemicals on a continuous basis. You should describe how you will address the risks of inadequate chemical dosing in the response column.
29 You should modify your sampling program to ensure you are getting representative results.
30 Describe how you will address the risk in the response column.
31 Use this row to describe other risks and response strategies that relate to this risk.
32 Refer to Figure 12 in Section 6.2.2 and find the scenario that matches your system to evaluate the risk associated with poor water quality and your system.

2.4 Deficiencies in the Cooling Tower System

Deficiencies in the Cooling Tower System Risk Control Strategy	Assessment of Cooling Tower System	Operational or Tower System Improvement Response[33]
Review the system design against AS/NZ 3666	Has a review been conducted? ☐ Yes ☐ No[34]	
	Are there any improvements that can be made to the system design to reduce risks? ☐ Yes[35] ☐ No[36]	
Review current operation and performance of system	Has a review been conducted? ☐ Yes[37] ☐ No[38]	
Develop operating and maintenance manuals	Are operating and maintenance manuals developed? ☐ Yes ☐ No[39]	
Review the useful life of the system and plan to replace it at an appropriate time	When was the tower built?	
	Do you have a program to replace it? ☐ Yes[40] ☐ No[41]	
Install an modern high efficiency drift eliminator	Is there a modern high efficiency drift eliminator fitted to every tower in the system? ☐ Yes ☐ No[42]	
	Are the drift eliminators in good condition? ☐ Yes ☐ No[43]	
	Have the drift eliminators been certified by the manufacturer as meeting AS/NZS 3666? ☐ Yes ☐ No[44]	

Deficiencies in the Cooling Tower System Risk Control Strategy	Assessment of Cooling Tower System	Operational or Tower System Improvement Response[33]
Use suitable materials for external components	Have you reviewed the condition of the tower structure? ☐ Yes[45] ☐ No[46]	
Use suitable materials for internal components	Have you reviewed the materials and condition of the internal components of the tower system? ☐ Yes[47] ☐ No[48]	
Other[49]		

Risk Classification for Deficiencies in the Cooling Tower System Risk[50]	☐ **A** ☐ **B** ☐ **C** ☐ **D**

33 Indicate the operational program you will put in place as a result of this assessment.
34 Describe how you will address the risk in the response column.
35 Describe the improvements in the response column.
36 Describe how you will address the risk in the response column.
37 Describe the improvements in the response column.
38 Without a review, it is impossible to complete a proper risk assessment. Describe how you will address the risks without the review in the response column.
39 Describe how you will address the risks in the response column.
40 Describe when in the response column.
41 Describe how you will address the risks in the response column.
42 Describe how you will address the risks of excessive drift leaving the towers in the response column, for example by installing a drift eliminator that complies with AS/NZS 3666.
43 Describe how you will address the risks of excessive drift leaving the towers in the response column, for example by installing a drift eliminator that complies with AS/NZS 3666.
44 Describe how you will address the risks of excessive drift leaving the towers in the response column, for example by installing a drift eliminator that complies with AS/NZS 3666.
45 Describe the improvements in the response column.
46 Describe how you will address the risk in the response column.
47 Describe the improvements in the response column.
48 Describe how you will address the risk in the response column.
49 Use this row to describe other risks and response strategies that relate to this risk.
50 Refer to Figure 12 in Section 6.2.2 of the guide and find the scenario that matches your system to evaluate the risk associated with deficiencies in the cooling tower system and your system.

2.5 Location and Access

Location and Access Risk Control Strategy	Assessment of Cooling Tower System	Operational or Tower System Improvement Response[51]
Understand the extent of potential exposure to the cooling tower	Is the cooling tower system located in an acute health or aged residential care facility? ☐ Yes[52] ☐ No	
	If No, is the cooling tower system located **near** an acute health or aged residential care facility? ☐ Yes[53] ☐ No	
Minimise access to tower and surrounds	How many people have access to the tower and its surrounds? ☐ Very high numbers[54] ☐ High numbers[55] ☐ Moderate numbers[56] ☐ Low numbers[57]	
	Are warning signs[58] displayed around the tower? ☐ Yes ☐ No[59]	
	Is the area around the cooling tower system used as a gathering place for staff and visitors, particularly smokers? ☐ Yes[60] ☐ No	
	Is access to the tower restricted? ☐ Yes ☐ No[61]	
Relocation of tower to more remote site or less contaminated environment (where possible)	Have you reviewed whether it is possible to relocate the tower to a safer location? ☐ Yes[62] ☐ No[63]	

Location and Access Risk Control Strategy	Assessment of Cooling Tower System	Operational or Tower System Improvement Response[51]
Ensure there is a safe and stable area for maintenance workers to access the cooling tower system	Have you reviewed the working environment for maintenance workers?[64] ☐ Yes[65] ☐ No[66]	
Other[67]		

Risk Classification for Location and Access Risk[68]	☐ A ☐ B ☐ C ☐ D

51 Indicate the operational program you will put in place as a result of this assessment.
52 Classify as Risk Category A and respond with highest standards of maintenance and surveillance.
53 Classify as a minimum of Risk Category B and respond with high standards of maintenance and surveillance.
54 Refer to Figure 10 of Guide to Developing Risk Management Plans for Cooling Tower Systems.
55 Refer to Figure 10 of Guide to Developing Risk Management Plans for Cooling Tower Systems.
56 Refer to Figure 10 of Guide to Developing Risk Management Plans for Cooling Tower Systems.
57 Refer to Figure 10 of Guide to Developing Risk Management Plans for Cooling Tower Systems.
58 For example, 'Authorised Persons Only'.
59 Describe how you will address the risks without such signs.
60 Describe how you will address the risks of smokers being in close proximity to the cooling towers.
61 Describe how you will address the risks until access to the tower has been restricted.
62 Describe outcomes of the review.
63 Describe how you will address the risk of location and access without such a review.
64 This is key area in terms of meeting your responsibilities under the Occupational Health and Safety Act.
65 Describe the outcomes of the review. For example, any actions to be taken.
66 Describe how you will address the risks without such a review.
67 Use this row to describe other risks and response strategies that relate to this risk.
68 Refer to Figure 12 in Section 6.2.2 of the guide and find the scenario that matches your system to evaluate the risk associated with location and access and your system.

3 Risk Assessment Summary

Critical Risk Classification[69]	
Stagnant Water	☐ A ☐ B ☐ C ☐ D
Nutrient Growth	☐ A ☐ B ☐ C ☐ D
Poor Water Quality	☐ A ☐ B ☐ C ☐ D
Deficiencies in the Cooling Tower System	☐ A ☐ B ☐ C ☐ D
Location and Access	☐ A ☐ B ☐ C ☐ D
Are there any other considerations that may affect the overall risk assessment of the cooling tower system?	
Overall Cooling Tower System Risk Classification Category	☐ A ☐ B ☐ C ☐ D

4 Attachments[70]

69 Tick the appropriate box based on your responses to the questions in Figure 12 in Section 6.2.2 of this Guide.
70 Other information which can be appended to the Risk Management Plan includes site plan, photographs, schematics of water flows, cooling tower makes and models, basic system parameters, for example system volume, system heat rejection capacity and system operating temperature.

5 Operational Program

Recommended Operational Programs Based on Risk Classification			
Program A	**Program B**	**Program C**	**Program D**
Weekly inspection	Monthly inspection (two weeks after service)	Monthly inspection (two weeks after service)	Monthly service
Fortnightly service	Monthly service	Monthly service	Monthly service
A minimum of monthly HCC test	Monthly HCC test	Monthly HCC test	Monthly HCC test
Six monthly cleaning or more frequently where environmental contamination (for example dust, soil, building works etc) is a problem.			

Recommended *Legionella* Testing Frequency as a Performance Measure			
Risk Category A	**Risk Category B**	**Risk Category C**	**Risk Category D**
At least every month	Every month	Every two months	Every three months

Element	**Tick box**
Describe your maintenance program	☐ Department of Human Services Program A
	☐ Department of Human Services Program B
	☐ Department of Human Services Program C
	☐ Department of Human Services Program D
	☐ Self-developed
	☐ Developed by consultant
If self-developed or developed by consultant, complete remainder of table[71]	
Service frequency	☐ Weekly
	☐ Fortnightly
	☐ Monthly
HCC testing frequency	☐ Monthly
	☐ Every …….. weeks/months
Legionella testing frequency	☐ No set frequency
	☐ Every …….. weeks/months
Tower cleaning frequency (select one and fill in blank if appropriate)	☐ Every 6 months
	☐ Every …….. months
Inspection frequency	☐ Every …… weeks/months

71 Select one and fill in blank if appropriate

Attachment 1

6 Monitoring and Review

Element	Details
Date RMP due for review	
Name/Title of person responsible for review	
Date RMP reviewed	
Does the RMP require amendment?	☐ Yes
	☐ No
If RMP requires amendment, date amendments due and completed?	Due
	Completed

7 Communication

Element	Details			
List parties (names and contact details) who will be informed in the event of a positive *Legionella* test	**Category**	**Name/Title**	**Telephone**	**Comment**
	Staff			
	Occupational Health staff/contractors			
	Unions			
	Building owner			
	Other building occupiers			
	Medical officer			
	Staff counsellors			
	Department of Human Services Public Health Division		1800 248 898	
	Local Council	…….. (Environmental Health Officer)		
	Media Liaison Officer			
	Company spokesperson			
	Chief Executive			

8 Endorsement of Risk Management Plan

Name/position of person responsible for Risk Management Plan	
Signature	

Attachment 2

Model Operational Program Specification

Scope of Work

The maintenance program includes the:

- Treatment of the cooling tower system (CTS) for the control of corrosion, scale formation, fouling and to minimise microbiological growth to safe levels
- Testing of the water for Heterotrophic Colony Count (HCC) (also called Total Bacteria or Total Plate count)
- Testing of the water for *Legionella*
- Monitoring of the cooling tower system structure itself to ensure that the cooling tower equipment is operating effectively and that the cooling tower system is safe and free from hazards.

Chemical Program

The chemical program must incorporate the use of a:

- Corrosion/scale inhibitor
- At least one biocide (preferably two used in rotation)
- Biodispersant to assist in the removal of any biofilm in the system.

Bacterial Testing

Bacterial testing is required as follows:

(a) Heterotrophic Colony Count (HCC)

- Sampling for HCC in accordance with AS/NZS 3666.3 and AS2031.2 for the sample collection and the selection of containers and preservation of water samples for microbiological testing.
- Analysis commenced within 24 hours of the sample being taken[1].
- Analysis of the water samples from the CTS for HCC **using a NATA accredited laboratory**[2] in accordance with AS 4276.3

(b) Legionella

- Sampling for *Legionella* in accordance with AS/NZS 3666.3 in terms of sample collection, AS 2031.2 for selection of containers and preservation of water samples for microbiological testing
- Testing for *Legionella* by a NATA accredited laboratory in accordance with AS/NZS 3896: 1998 Waters – Examination for Legionellae including *Legionella pneumophila*.
- Transport of the samples to the laboratory as soon as possible.

(c) Reporting

Reporting of all results to be consistent with NATA accreditation and include:

- Immediate notification by fax or email[3]. A follow up telephone call to confirm receipt of any results that exceed the limits set by legislation or this contract whichever is more stringent.
- Email copy of all results[4].
- Availability to discuss results either over the telephone or on-site as required.

1 Note – in some more remote areas it is not always possible to achieve this objective but it must still be achieved in the least practicable time. Where it is not possible contact should be made with the testing laboratory to determine the best possible method.
2 The use of a NATA accredited laboratory accredited for these tests is strongly recommended
3 It is important that where the sampling and maintenance have been outsourced to one company who then sub-contract to another company for the microbiological analysis that you obtain a copy of the testing laboratory's results rather than a report from the maintenance contractor.
4 Where available

Attachment 2

(d) Poor results

HCC

If the HCC level is greater than 100,000 CFU/mL the following procedure must be taken:

I. Within 24 hours of receipt of the advice from the testing laboratory, the cooling tower system must be manually treated with additional quantities of biocide or with an alternative biocide to the biocide in current use.

II. The water treatment program, tower operation and maintenance programs must be reviewed and a thorough inspection of the water treatment system is to be made and any faults corrected.

III. Between two and four days later resample for HCC.

IV. If the next test result also exceeds 100,000 CFU/mL the cooling tower system must be disinfected, cleaned and re-disinfected. A chlorine compatible bio-dispersant must be added to the recirculating water and the system must then be disinfected by dosing the water with a chlorine-based biocide, equivalent to 10 mg/L of free chlorine for at least one hour while maintaining a pH of between 7.0 and 7.6. A bromine-based compound may be used equivalent to at least 20 mg/L of free bromine for at least one hour, while maintaining the pH of the water between 7.0 and 8.5.

V. Between two and four days later a further sample must be taken and tested for HCC.

VI. If after following this procedure, the result still exceeds 100,000 CFU/mL, the process outlined in IV and V must be repeated until the HCC result does not exceed 100,000 CFU/mL in two consecutive water samples taken approximately one week apart.

Legionella

Within 24 hours of receiving a report that *Legionella* has been detected in the cooling tower system, the following procedure must be followed:

I. Disinfect the cooling tower system as described above.

II. The water treatment program, tower operation and maintenance programs must be reviewed and a thorough inspection of the water treatment system is to be made and any faults corrected.

III. Between two and four days after completing the disinfection referred to above take a further sample of the recirculating water and test for *Legionella*.

IV. If the next test result also finds *Legionella* present the within 24 hours of receiving that advice the cooling tower system must be disinfected, cleaned and re-disinfected as above.

V. Between two and four days after completing the disinfection, take a further sample for testing for *Legionella*.

VI. if after following this procedure, *Legionella* is still present then the process outlined in IV and V must be repeated until *Legionella* is not detected in two consecutive water samples taken approximately one week apart.

Service Frequency

The service frequency shall be …….[5] and include a written service report provided at the time of the visit detailing all test results, observations and remedial actions taken.

This service shall ensure that:

- Water quality is checked
- Chemical dosing tanks are refilled
- Empty tanks removed from the site
- Dosing and control equipment is checked and is operating correctly and if problems are observed that remedial action is taken to fix the problem.
- Inspection of the wetted components and general integrity of the system including cleanliness and take action to remedy any problems noticed.
- ……[6].

In addition to the ……[7]. service the corrosion coupons (metal test plates) must be checked every three months for signs of corrosion. The corrosion coupons must be of the same types of metals used in

5 Insert frequency in marked spaces after reading the 'A Guide to Developing Risk Management Plans for Cooling Tower Systems' document
6 Insert other requirements
7 Insert the service frequency, for example monthly.

the cooling tower system and are to be immersed in the system water and checked as above.[8]

All samples of the water to be taken for bacterial testing (HCC and/or *Legionella)* must be taken prior to any addition of chemicals.

Tower Cleaning

Tower cleaning shall be conducted ……..[9] at least 2 weeks before/after the scheduled …… service.

The tower cleaning process shall meet the requirements of the Health *(Legionella)* Regulations 2001.

Service Report

A service report must be completed at the time of each visit detailing all test results, observations and actions taken including any repairs, maintenance and testing work. The next page shows the information required to be provided as a minimum following each visit.

A copy of the service report is to be left on-site[10] at an agreed point and any points of significance are to be discussed with the Contract Manager.

8 Note: in some circumstances may be supplemented by the use of corrosion coupons the measurement of soluble copper and iron in solution. You may need to seek independent specialist advice as to the risk of corrosion in your system and the best ways to control and monitor it.

9 Insert desired cleaning frequency, say 6-monthly

10 The Health *(Legionella)* Regulations require the responsible person for the cooling tower system to keep a maintenance log book with details of all maintenance activities, microbiological test results and approvals issued by the Secretary to the Department of Human Services for alternative maintenance or testing methods. The Building Act requires that these records be kept on-site for at least seven years.