

# SS 9 - Mechanical Ventilation, Air Conditioning Systems and Cooling Towers

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|---|--|--|-----------------|
| <b>Address:</b>   |  |  |                 |
| <b>Provided by (name):</b>  |  |  |                 |
| <b>Equipment Register</b>   |  |  |                 |
|   | <b>Make (major components)</b>   | <b>Model</b>   | <b>Location</b> |
| 1   |  |  |                 |
| 2   |  |  |                 |
| 3   |  |  |                 |
| 4   |  |  |                 |
| 5   |  |  |                 |
| 6   |  |  |                 |
| <b>Performance/Installation Standard</b>  | <input type="checkbox"/> AS/NZS 3666.2<br><input type="checkbox"/> AS 1668.2<br><input type="checkbox"/> Specifically Designed Alternative Solution<br><input type="checkbox"/> Other (Historical) _____                     |  |                 |
| <b>Inspections and Maintenance Standard:</b>  | <input type="checkbox"/> Comp. Schedule Handbook and AS/NZS 3666.2<br><input type="checkbox"/> AS 1668.2<br><input type="checkbox"/> Specifically designed solution provide details separately                               |  |                 |
| <b>As a minimum these inspections and maintenance procedures will be carried out:</b> | Planned preventative maintenance and responsive maintenance will be carried out in accordance with the nominated performance and inspection standard or document to ensure the system will operate as required. See Below.   |  |                 |
| <b>Frequency and responsibility:</b>  | <input type="checkbox"/> Annually  | <input type="checkbox"/> Owner<br><input type="checkbox"/> IQP |                 |
|   | <input type="checkbox"/> Six-Monthly   | <input type="checkbox"/> Owner<br><input type="checkbox"/> IQP |                 |
|   | <input type="checkbox"/> Monthly   | <input type="checkbox"/> Owner<br><input type="checkbox"/> IQP |                 |
|   | <input type="checkbox"/> Weekly  | <input type="checkbox"/> Owner<br><input type="checkbox"/> IQP |                 |
| <b>Inspections and Maintenance:</b>   |  |  |                 |
| <i>Annual / Monthly Inspections</i>   | Annual and monthly inspections should be carried out in conformance with the applicable standard selected above.   |  |                 |
| <i>Monthly / Weekly Inspections</i>   | In addition to the maintenance required by the applicable standard selected above particular attention must be given to systems incorporating cooling towers or condensers in case organisms such as Legionella are present. |  |                 |

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|  | <p><b>Chemical control</b></p> <p>For cooling towers and evaporative condensers with automatic chemical dosing:</p> <ul style="list-style-type: none"> <li>bacteriological tests performed as detailed in Table 1</li> </ul> <p>For cooling towers and evaporative condensers without automatic chemical dosing:</p> <ul style="list-style-type: none"> <li>weekly dipslide tests</li> <li>bacteriological tests performed as detailed in Table 1</li> </ul> <p>When dipslide tests have a result greater than <math>10^5</math> cfu/ml, control strategies in AS/NZS 3666.3 Table 3.2 must be implemented.</p> |
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| <b>Reporting:</b> | <p>The owner must keep records of all inspections, maintenance and repairs undertaken in the previous 24 months. The records must be kept with the compliance schedule and as a minimum, include:</p> <ul style="list-style-type: none"> <li>Details of any inspection, test or preventative maintenance carried out. Include dates, work undertaken, faults found, remedies applied, and the person who performed the work.</li> <li>A Form 12A provided by an IQP annually</li> </ul> |
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|                |                              |
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| <b>TABLE 1</b> | <b>Cooling Tower testing</b> |
|----------------|------------------------------|

| Cooling tower with automatic chemical dosing  | Time    | Test method              | Test result levels dosing and control strategies <sup>2</sup> |
|---|---------|--------------------------|---|
| Legionella  | Monthly | AS/NZS 3896 <sup>1</sup> | AS/NZS 3666.32 Table 3.1                                      |
| Heterotrophic microorganisms  | Monthly | AS 4276.3.1 <sup>1</sup> | AS/NZS 3666.3 Table 3.2                                       |
| <b>Cooling tower without automatic chemical dosing</b>  |         |                          |   |
| In addition to the testing above, cooling towers without automatic chemical dosing must also do the following test. |         |                          |   |
| Heterotrophic microorganisms  | Weekly  | Dip slide                | AS/NZS 3666.3 Table 3.2                                       |

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| <p>Note 1</p> <ul style="list-style-type: none"> <li>Tests to AS/NZS 3896 and AS 4276.3.1 shall be undertaken by an IANZ biologically accredited laboratory.</li> </ul> <p>Note 2</p> <ul style="list-style-type: none"> <li>Legionella tests with results greater than or equal to 1000 cfu/ml should be notified within 48 hours to the local Medical Officer of Health at the Public Health Service of the District Health Board, and the Required Control Strategy from Table 3.1 of AS/NZS 3666.3 shall be implemented.</li> </ul> <p>Note 3</p> <ul style="list-style-type: none"> <li>Industrial cooling towers are not required by the Building Act to be included on a compliance schedule. Testing for Legionella in these cooling towers is required by employers to ensure a</li> </ul> |
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safe working environment for their employees under the Health and Safety in Employment Act 1992.