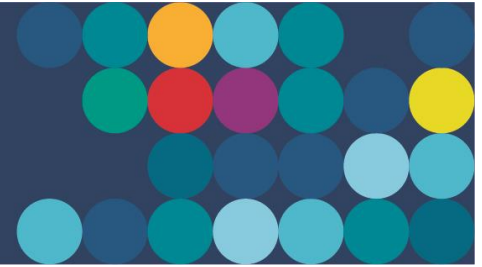


# Cooling tower checklist for site managers



## Understanding water treatment reports

Understanding your water treatment reports will assist in maintaining a water efficient cooling tower.

The overall purpose of a water treatment report is to provide a ‘snapshot’ of the cooling tower operation and the effectiveness of the current water treatment program.

To define the outcomes of a water treatment program, suitable key performance indicators (KPI’s) must be in place within the water treatment contract including tracking the associated performance (e.g. water use efficiency) and the results should be presented in each monthly water treatment report.

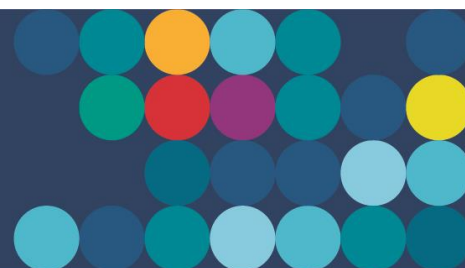
One of the key parameters associated with calculating and evaluating cooling tower water efficiency is the system cycles of concentration (CoC). It is therefore important that cooling tower CoC’s are reported on, on at least a monthly basis within water treatment reports.

Water Corporation has created these check lists to help site managers evaluate their water treatment program deliverables. Although a particular focus has been placed on water efficiency additional important information, from an overall system operation perspective, has been included.

### Checklist 1: cooling water key physical and chemical parameters

| Water Treatment Report Content/Management  | Yes | No |
|--|-----|----|
| Is the site receiving monthly (or more frequent) reports from the water treatment supplier and are these reports being centrally stored for future reference   |     |    |
| Does the site manager discuss the report with the water treatment service representative on at least a monthly basis   |     |    |
| Does the report include the analysis of: <ul style="list-style-type: none"> <li>Cooling water chemical properties such as free chlorine residuals, halogens, etc.</li> <li>Cooling water physical properties such as Total Dissolved Solids, pH, Conductivity, etc.</li> </ul> |     |    |
| Does the report include monthly makeup water quality analysis of parameters such as Total Dissolved Solids, Conductivity and Chlorides   |     |    |
| Are the cooling water chemical and physical operating control ranges (i.e. maximum and minimum target limits) defined within the report  |     |    |
| Are actual cooling water cycles of concentration (CoC’s) determined and recorded within the report   |     |    |
| Are actual versus optimum / maximum cycles of concentration (CoC’s) trended and recorded within the report   |     |    |

# Cooling tower checklist for site managers



## Checklist 2: cooling tower system observations

| Water Treatment Service Provider Observations   | Yes | No |
|---|-----|----|
| Does the service provider report on the following issues:   |     |    |
| <ul style="list-style-type: none"> <li>System leaks from tower sumps, recirculation pipework, pumps, seals etc.</li> </ul>  |     |    |
| <ul style="list-style-type: none"> <li>Tower overflows</li> </ul>   |     |    |
| <ul style="list-style-type: none"> <li>Uncontrolled water loss from towers (e.g. aerosol fallout, windage, splash out etc.)</li> </ul>  |     |    |
| <ul style="list-style-type: none"> <li>Sidestream filtration operation</li> </ul>   |     |    |
| <ul style="list-style-type: none"> <li>Makeup water and bleed and meter readings if applicable (not all sites have bleed meters, they should all have makeup water meters)</li> </ul> |     |    |
| <ul style="list-style-type: none"> <li>Next scheduled site service visit</li> </ul>   |     |    |
| <ul style="list-style-type: none"> <li>Contact details for the water treatment consultant and area manager</li> </ul>   |     |    |

## Checklist 3: cooling water system general checks

| General Information – Water Treatment Report action / follow up  | Yes | No |
|--|-----|----|
| Does the report contain the following information:   |     |    |
| <ul style="list-style-type: none"> <li>Recommendations or remedial actions relating to any identified areas of concern or acknowledge 'no concerns'</li> </ul>                       |     |    |
| <ul style="list-style-type: none"> <li>Details specific to equipment reliability (solenoid, bleed valves and controllers etc.)</li> </ul>  |     |    |
| <ul style="list-style-type: none"> <li>Information about the conductivity controller; whether it has been checked or recalibrated and when the next calibration is due</li> </ul>    |     |    |
| <ul style="list-style-type: none"> <li>Outline the methods of dosing; timed, automated or manual</li> </ul>  |     |    |
| <ul style="list-style-type: none"> <li>Information about the primary, secondary and bio-dispersant utilised</li> </ul>   |     |    |
| <ul style="list-style-type: none"> <li>Information about the chemical dosing pump settings, dose rates and if any adjustments were made to the dose rates (if applicable)</li> </ul> |     |    |
| <ul style="list-style-type: none"> <li>Information surrounding the type and quantity of any additional chemicals dosed at the time of the site visit</li> </ul>                      |     |    |
| <ul style="list-style-type: none"> <li>Information surrounding chemical stock levels?</li> </ul>   |     |    |
| <ul style="list-style-type: none"> <li>Legionella and HPC results</li> </ul>   |     |    |
| <ul style="list-style-type: none"> <li>Outline any identified areas for improvement or areas of concern relating to the cooling system in general</li> </ul>                         |     |    |

For more information contact the water efficiency team: [water.efficiency@watercorporation.com.au](mailto:water.efficiency@watercorporation.com.au)