



# COOLING TOWER EFFICIENCY PROGRAM CYCLES OF CONCENTRATION WORKSHEET

These worksheets help cooling tower owners with setting, calculating and recording the cycles of concentration at their cooling towers.

## CUSTOMER INFORMATION

Company Name: \_\_\_\_\_

Tower Site Name: (Ex. North Tower or Store #53) \_\_\_\_\_

Property Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

## COOLING TOWER INFORMATION

Date Completed: \_\_\_\_\_  
(must be no more than 90 days prior to applicable registration / inspection due date)

1) In the past 12 months, what were the lowest daily cycles of concentration recorded (must be no less than 5 cycles if using potable water) and what date were the readings taken?

2) Complete the worksheet (Option A, B, or C) corresponding to the type of water treatment used at the cooling tower and submit it with your Registration and/or Inspection Form (fill out a separate worksheet for each cooling tower)

- For “Austin Water Potable Water”, use the most recent [Water Quality Summary Report](#) to calculate the average of “DWTP Tap”, “UWTP Tap”, and “WTP4 Tap” for each constituent
- For “Cooling Tower”, enter the water quality analysis of the circulating water in the cooling tower and blowdown set points for your cooling tower
- To calculate “Cycles of Concentration”, divide the cooling tower hardness and conductivity by Austin Water’s hardness and conductivity

### OPTION A) STANDARD TREATMENT

uses biocides, anti-corrosion treatment, and scaling inhibitors

	Phenol Alkalinity	Total Alkalinity	Total Hardness	Calcium	Conductivity (umhos/cm)	pH	Inhibitor	Langelier Saturation Index (LSI)
Austin Water Potable Water								
Cooling Tower								
Cycles of Concentration								

## COOLING TOWER EFFICIENCY PROGRAM – COC CALCULATION WORKSHEET

### OPTION B) PH TRIMMING

*uses sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) to keep pH/alkalinity below 8.6 and minimize scale*

	Phenol Alkalinity	Total Alkalinity	Total Hardness	Calcium	Conductivity (umohos/cm)	pH	Inhibitor	Langelier Saturation Index (LSI)
Austin Water Potable Water								
Cooling Tower								
Cycles of Concentration								

### OPTION C) WATER SOFTENING

*uses water treatment and/or filtration systems to reduce hardness (e.g., TDS, calcium carbonate)*

	Phenol Alkalinity	Total Alkalinity	Total Hardness	Calcium	Conductivity (umohos/cm)	pH	Inhibitor	Langelier Saturation Index (LSI)
Austin Water Potable Water								
Cooling Tower								
Cycles of Concentration								

### CUSTOMER STATEMENT

I certify that all statements and representations contained in this form are true, correct and complete. I understand that providing false information is subject to criminal penalties.

Property Owner or Authorized Representative's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

### RETURN WORKSHEET AND FORMS TO AUSTIN WATER:

**Mail:** Austin Water Conservation, PO Box 1088, Austin, TX 78767

**Email:** watercon@austintexas.gov

**Fax:** 512-974-3504