COOLING TOWER EFFICIENCY PROGRAM
ANNUAL INSPECTION FORM

Section 1126.0.1 of the city's **Local Amendments to the 2015 Uniform Mechanical Code** requires cooling towers to be inspected annually for compliance with water efficiency standards and equipment requirements and the inspection forms sent to Austin Water.

INSPECTION FORM DUE DATES

- Must be submitted by **March 1 of each year**. Inspections must be performed no more than 90 days before the March 1 due date**.**
- Forms must be completed and signed by either:
  - an independent third party Texas licensed mechanical or chemical engineer;
  - a person holding a TDLR Texas Air Conditioning and Refrigeration License (*Class A*) with a combined endorsement for process cooling and refrigeration; or
  - other persons approved by Austin Water for performance testing of cooling towers

EFFICIENCY STANDARDS & EQUIPMENT REQUIREMENTS

- **All cooling towers installed after December 31, 2007 that use Austin Water potable water** must have:
  - Make-up and blow down sub-meters;
  - A conductivity controller;
  - A drift eliminator with a drift rate of not more than 0.005% of the circulated water flow rate for cross-flow towers and 0.002% for counter flow towers;
  - An overflow alarm; and
  - Achieve at least 5 cycles of concentration

- **New facilities** (*building permit application submitted after September 5, 2017*) **with 100 tons or greater combined cooling tower capacity:**
  - Must have the make-up and blow down meters and overflow alarm connected to the building's Central Energy Management System or Utility Monitoring Dashboard; and
  - The facility must have a water storage tank, plumbing and treatment system to either:
    - Utilize blow down water for wash down, cleaning, toilet flushing, subsurface irrigation and other authorized purposes; or
    - Offset a minimum of 10% of the makeup water with reclaimed or onsite alternative water sources

CHECKLIST

☐ Complete a separate Inspection Form for each cooling tower. All information is required. Austin Water will not accept incomplete forms.

☐ If there is more than one cooling tower at the facility, please include a site plan that shows each tower's location. Identify each tower using the cooling tower's serial number, or another method.

☐ Submit the completed Inspection Form to Austin Water:

Mail: Austin Water Conservation, PO Box 1088, Austin, TX 78767
Email: watercon@austintexas.gov
Fax: 512-974-3504
In Person: 625 E. 10th Street, Suite 615 Austin, Texas 78701

☐ Austin Water will review submitted information and contact customers about possible water efficient upgrades and available rebates

RESOURCES

Cooling Tower Efficiency Program Frequently Asked Questions

COOLING TOWER EFFICIENCY PROGRAM
ANNUAL INSPECTION FORM

COMPLETE THE FOLLOWING SECTIONS:

PART A: Please answer the following:

☐ YES ☐ NO The cooling tower(s) at this property was installed **prior to January 1, 2008**

☐ YES ☐ NO A fully completed cooling tower **registration form** for the tower(s) at this property has been submitted to Austin Water.

☐ YES ☐ NO A fully completed cooling tower **inspection form** meeting all requirements has been submitted for the cooling tower(s) at this property to Austin Water.

If you checked "YES" to all above, fill out the contact information below, skip Part B, and submit this form. However, if this cooling tower(s) is replaced, you will need to submit a new registration form for the new tower(s) prior to operation AND submit an annual inspection.

If you checked "NO to any of the above, complete and submit Part B.

Company Name: _____

Tower Site Name *(Ex. North Tower or Store #53):* _____

Property Address: _____

City: _____ State: _____ Zip: _____

Mailing Address *(if different):* _____

City: _____ State: _____ Zip: _____

Site Management Contact Name: _____ Title: _____

Phone: _____ Email: _____

PART B:

☐ Have an approved licensed inspector complete and sign a separate Inspection Form (*see page 3*) for each cooling tower site. See Inspection Form Due Dates on opposite page for approved inspector requirements.

☐ Submit completed Inspection Forms for each cooling tower at the property to Austin Water by the March 1 deadline. If there is more than one tower at the property, please provide a site map identifying the location of the towers.

RETURN FORMS TO AUSTIN WATER:

Mail: Austin Water Conservation, PO Box 1088, Austin, TX 78767
Email: watercon@austintexas.gov
Fax: 512-974-3504
In Person: 625 E. 10th Street, Suite 615 Austin, Texas 78701

Austin Water Request ID Number: _____

COOLING TOWER EFFICIENCY PROGRAM – INSPECTION FORM

CUSTOMER INFORMATION

Austin Water Account Number: _____ Backflow Serial Number: _____

Company Name: _____

Tower Site Name *(Ex. North Tower or Store #53):* _____

Property Address: _____

City: _____ State: _____ Zip: _____

Mailing Address *(if different):* _____

City: _____ State: _____ Zip: _____

Site Management Contact Name: _____ Title: _____

Phone: _____ Email: _____

COOLING TOWER INFORMATION

Cooling Tower:	Make & Model: _____ Size (*tons*): _____ Date Installed: _____ Water Source(s): _____ Cycles of Concentration: Complete & Submit the Cycles Of Concentration Worksheet (p. 4)
Make & Model of the Following:	Conductivity Controller: _____ Drift Eliminator: _____ Overflow Alarm:
Make-Up Meter:	Model Number: _____ Serial Number: _____ Meter Units of Measure: ☐ Gallons ☐ Cubic Feet ☐ Pounds ☐ CCF
Blow down Meter:	Model Number: _____ Serial Number: _____ Meter Units of Measure: ☐ Gallons ☐ Cubic Feet ☐ Pounds ☐ CCF

☐ Yes ☐ No Are the makeup / overflow meters, as well as the overflow alarm, connected to the building's central energy management system or utility monitoring dashboard?

☐ Yes ☐ No Is the cooling tower blow down reused for on-site beneficial use?

☐ Yes ☐ No Is any make-up water supplied by reclaimed or an on-site auxiliary water source?

☐ Yes ☐ No Does the owner maintain an on-site, written log that contains the monthly make-up and blow down meter reads, conductivity values, and cycles of concentration?

Austin Water Request ID#: _____

COOLING TOWER EFFICIENCY PROGRAM
INSPECTION FORM - 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? Please include the date when the readings were 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 blow down 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 (umohos/cm)	pH	Inhibitor	Langelier Saturation Index (LSI)
Austin Water Potable Water								
Cooling Tower								
Cycles of Concentration								

OPTION B) PH TRIMMING

Uses sulfuric acid (H2SO4) 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								

INSPECTOR'S STATEMENT & SEAL

I certify that all statements and representations contained in this form are true, correct and complete.

Inspector's Name: _____ License Type/ Number: _____

Signature: _____ Date: _____ Seal:

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