

Water Conservation Ordinance §6-4-10 of Austin City 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 1st of each year**. Inspections must be performed no more than 90 days before the March 1st due date.
- Forms must be completed and signed by either:
 - o an independent third-party Texas licensed mechanical or chemical engineer,
 - o a person holding a TDLR Texas Air Conditioning and Refrigeration License (*Class A*) with a combined endorsement for process cooling and refrigeration, or
 - o 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**:
 - o Make-up and blow down sub-meters,
 - o A conductivity controller,
 - o A drift eliminator with a drift rate of not more than 0.005% of the circulated water flow rate for crossflow towers and 0.002% for counter-flow towers,
 - o An overflow alarm, and
 - o 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**:
 - o The make-up and blow-down meters and overflow alarm connected to the building's Central Energy Management System or Utility Monitoring Dashboard; and
 - o 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:** FacEvalSubmit@austintexas.gov
 - Fax:** 512-974-3504
- Austin Water will review submitted information and contact customers about possible water efficient upgrades and available rebates

COOLING TOWER EFFICIENCY INSPECTION FORM

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: _____

Contact Name: _____ Title: _____

Phone: _____ Email: _____

PART B

- Have an approved licensed inspector complete and sign a separate Inspection Form and (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 are 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: FaceEvalSubmit@austintexas.gov

Fax: 512-974-3504

COOLING TOWER EFFICIENCY INSPECTION FORM

CUSTOMER INFORMATION

Austin Water Account #: _____ Backflow Serial #: _____

Company Name: _____

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

Property Address: _____

City: _____ State: _____ Zip: _____

Mailing Address: _____
 (if different)

City: _____ State: _____ Zip: _____

Contact Name: _____ Title: _____

Phone: _____ Email: _____

COOLING TOWER INFORMATION

Date Completed: _____

Cooling Tower:	Make & Model: _____ Size (tons): _____ Date Installed: _____ Water Source(s): _____ Cycles of Concentration: Complete & Submit the Cycles Of Concentration Worksheet (page 4)
Make & Model of the Following:	Conductivity Controller: _____ Drift Eliminator: _____ Overflow Alarm: _____
Make-Up Meter:	Model Number: _____ Serial Number: _____
Blow Down Meter:	Model Number: _____ Serial Number: _____

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 blowdown reused for on-site beneficial use?

COOLING TOWER EFFICIENCY PROGRAM – ANNUAL INSPECTION FORM

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

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

Yes No Is a biocide used to treat the cooling system recirculation?

Yes No Have the cooling tower(s) been registered with Austin Water on a form provided by Austin Water?

CYCLES OF CONCENTRATION

The worksheet helps cooling tower owners with setting, calculating, and recording the cycles of concentration at their cooling towers.

1) In the past 12 months, what were the lowest cycles of concentration recorded? Please include the date when the readings were taken.

2) In the past 12 months, what was the average cycle of concentration?

3) Complete the table below and submit it with your Registration and/or Inspection Form (*fill out a separate table 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

	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 – ANNUAL INSPECTION FORM

WATER TREATMENT

4) Indicate the type of water treatment used for the cooling tower:

- STANDARD TREATMENT-** *Uses biocides, anti-corrosion treatment, and scaling inhibitors*
 - PH TRIMMING-** *Uses sulfuric acid (H₂SO₄) to keep pH/alkalinity below 8.6 and minimize scale*
 - WATER SOFTENING-** *Uses water treatment and/or filtration systems to reduce hardness (e.g., TDS, calcium carbonate)*
-

INSPECTOR'S STATEMENT & SEAL

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

Printed Name: _____ License Type/Number: _____
Inspector

Signature: _____ Date: _____ P.E. Seal:
Inspector

If the inspection was done under the **supervision** of an engineer or licensed contractor, include the name, signature, seal, or license number, as applicable.

Printed Name: _____ License Type/Number: _____
Supervising Engineer / Licensed Contractor

Signature: _____ Date: _____ P.E. Seal:
Supervising Engineer / Licensed Contractor

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