

Cooling Tower Compliance Guidance Document

To: Cooling Tower Owners and Operators

From: New York City Health Department, Office of Building Water Supply Oversight

Owners of buildings with cooling towers must register their towers, as required by the New York City Administrative Code (Section 317.3 of Chapter 28). Building owners must also comply with all operation and maintenance requirements found in [Chapter 8 in Title 24 of the Rules of the City of New York](#).

If you have not yet registered your cooling towers, you must first create an account and then upload documentation to the portal, as follows:

1. Go to the [NYC Cooling Tower Registration Portal](#), and click on “New Users: Click here to register.”
2. Fill in all the fields and click “Register.” Then click “Continue” to be redirected to the login page.
3. After registering, you will receive a verification email. Open the email and click on the link provided to log in with your new account information.
4. Register the details for any cooling tower systems and equipment, including the information for the building where any cooling towers are located.
5. Upload the following documentation, as needed:
 - Proof of annual certification
 - Reports of *Legionella* samples with high results ($\geq 1,000$ cfu/ml)
 - Proof of decommissioning cooling tower equipment or systems
 - Proof of compliance in response to a Commissioner’s Order or Violation Deficiency Report (VDR)

For each cooling tower system, the building owner must have a maintenance program and plan (MPP). The MPP must be prepared by a [“qualified person”](#) (i.e., a professional engineer, industrial hygienist, certified water technologist or certified environmental consultant with over two years’ experience in developing MPPs).

An up-to-date version of the MPP must be kept in the building where the cooling tower is located. The MPP must include detailed instructions about how to maintain and operate the cooling tower system, as well as compliance checklists, maintenance schedules and notification protocols for all control measures.

Specifically, the MPP must include:

1. **System Information §8-03(b):** All cooling tower system identifying information, including address, registration numbers, manufacturer information, design and dimensions.
2. **Team Information §8-03(a):** Name, contact information and role of each MPP team member, including the building owner; building manager or superintendent; plan preparer; responsible person or persons; and every consultant, service provider, laboratory contact and qualified person who cleans, delivers chemicals to or services the cooling tower. The MPP must also include the biocide technician's 7G license number from New York State.
3. **System Operation and Maintenance §8-04:** Steps for operating and maintaining the cooling tower system, including descriptions of these activities: cleaning, disinfection, compliance inspections, routine system monitoring and maintenance, shutdown, and startup.
4. **System Sampling, Testing and Treatment §8-05:** Steps for sampling, testing and treating the water in the cooling tower system, including water-quality monitoring, bacteria and *Legionella* testing, and any necessary treatments. The MPP must include sampling locations, collection times, sampling schedule and corrective actions.

General Operational Requirements

1. You must document and provide dates for all the activities performed while the cooling tower system is in operation, including filling the system, circulating the water, water sampling, cleanings, disinfections and water treatment measurements.
2. All bacterial and chemical sampling reports must include:
 - a) Exact place where sampling occurred: must be taken from a location that is typical of the conditions in the system.
 - b) Exact time when sampling was conducted: must be taken at least one hour after water circulation (i.e., after water treatment).
3. Work orders and invoices are not acceptable proof for bacteriological or *Legionella* culture testing; laboratory testing results are required.
4. Corrective actions must be taken when required (refer to §8-05 and §8-06 of Chapter 8).
5. Electronic records are acceptable if they are provided immediately when requested.

Cooling Tower Startup Guidance §8-06

If your cooling tower has been shut down or left untreated for five or more days, you must complete full startup procedures before turning it on or continuing to use it, as follows:

1. **Clean and disinfect** the cooling tower through power-washing or scrubbing all tower components to remove biofilm and debris. Disinfect with approved biocides to kill pathogens such as *Legionella*. Furthermore, all other system components (including heat exchangers, chillers and pipes) must be cleaned and disinfected. Follow the manufacturer's recommendations to be sure all parts are clean (e.g., some equipment may need to be

taken apart for proper cleaning). Further cleaning and disinfection guidance should be described in your MPP.

2. **Fill system and circulate water**, biocides and chemicals as specified in your MPP. The cooling tower system is now considered operational and must meet all New York City regulatory requirements, including routine system monitoring, maintenance and water-quality sampling.
3. **Conduct a compliance inspection.** Your qualified person must complete a physical assessment; inspect all components for the presence of contaminants and other adverse conditions; make sure that the water treatment equipment is functioning properly; and make sure that operational records are complete.
4. **Collect and analyze a water sample for the presence of *Legionella*** within 14 days. The sample must be analyzed by a laboratory certified by the Environmental Laboratory Approval Program (ELAP) of the New York State Department of Health (i.e., an ELAP-certified laboratory).
5. **Keep detailed records** of all procedures and actions performed.

Cooling Tower System Shutdown Guidance §8-06

1. **Decide on a cooling tower shutdown date** (i.e., a date after which the cooling tower is unlikely to be restarted for the season). It is possible that the cooling tower *equipment* is drained, but the cooling tower *system* remains in operation. Please note that systems operating on standby mode are not considered shut down. If there is water in the cooling tower system, *the system is not considered shut down and water must circulate with regular biocide additions and active management.*
2. **Reduce solids and sterilize the system** by slowly draining the cooling tower a few days before shutdown. Apply enough biocide to kill any bacteria or contaminants.
3. **Drain, inspect and clean the system.** Sweep off the tower decks; drain down and wash out the tower fill and sump; and inspect and perform any needed maintenance. Physically clean the system, take controllers offline, and remove or protect probes. Drain and protect the heat exchangers, chillers and pipes.
4. **Refill, flush and drain the cooling tower system.** Refill the system, add nonoxidizing biocide and recirculate as directed by the manufacturer. Then fully drain the cooling tower system. If there is water in the cooling tower system, the system is not considered shut down.
5. **Keep detailed records** of all procedures and actions performed.