COVID-19 Interim Guidance on NYC Cooling Tower Regulations

For building owners, building management, cooling tower industry, and water treatment operators and consultants during the COVID-19 pandemic

Under NYS Executive Order 202.6, service providers for cooling tower systems that support "Essential Infrastructure" are EXEMPT from work staffing reduction requirements during the COVID-19 pandemic. Examples of essential infrastructure include air conditioning, ventilation, refrigeration, industrial or manufacturing processing and electric power generation. Building management must work with their service providers to continue to comply with cooling tower regulations (Local Law 77 and Title 24 of Chapter 8 of the Rules of the City of New York (24 RCNY 8) with an adjusted water quality monitoring schedule, if needed.

Operational Challenges and Recommendations

If the Cooling Tower is …	**Recommended Response for the Cooling Tower Management and Maintenance Team:**
In operation	Building owner must coordinate essential services with operators and vendors and adhere to all cooling tower regulatory requirements. If building has staffing shortages, follow an interim water quality monitoring schedule.* **Bacteriological indicator and *Legionella* sampling requirements remain unchanged.** • Avoid non-continuous operations even if heat loads vary. Circulate water for at least 4 hours every 3 days while applying chemical and biocides.
Off for the season	• Delay startup until you have the appropriate staff to complete the startup procedures. • If you cannot delay startup, refer to the *Startup Procedures for Cooling Towers (Spring 2020 Update)* below for additional information.
Not essential infrastructure; *or* No longer needed due to reduction in demand; *or* Cannot be maintained due to service provider or staffing shortages.	• Conduct complete cooling tower shutdown procedure in accordance with Chapter 8. • Refer to the *Shutdown Procedures for Cooling Towers (Spring 2020 update)* below for additional information.

***Interim Water Quality Monitoring Schedule**

(effective until April 30, 2020, subject to change as conditions evolve)

	Standard Requirement (24 RCNY §8-05(f)(1)(A))	**Interim Requirement**
*Water Quality Parameter Measurements***	3 times per week with no more than 2 days between measurements	1 time per week with no more than 7 days between measurements

**Temperature, pH, conductivity, biocidal indicator, and other system process control parameters.

Startup Procedures for Cooling Towers (Spring 2020 Update)

Startup requirements for cooling towers are provided in §8-06(b) of Title 24 of Chapter 8 of the Rules of the City of New York City. Below is an alternative startup process during the COVID-19 pandemic, as well as general step-by-step instructions for startup. Whether using the alternative or standard process, cleaning and disinfection must follow industry guidance and procedures detailed by the qualified person in the maintenance program and plan (MPP). During disinfection, monitor pH and halogen residuals at two locations within the CT system to verify that the target biocide residual is achieved.

Alternative Startup Process During COVID-19 Pandemic

If you have documentation that the cooling tower system was fully cleaned and disinfected within the past 6 months, the following alternative process may be used:

- Fill the cooling tower system with water and disinfect prior to first use following the minimum requirements below:

Disinfection Requirement for Alternative Startup Process	
Minimum dose of chlorine or equivalent free halogen residual	Minimum time of circulation at the required dose
5-10 ppm	4 hours

- Complete Steps 2 through 5 below.
- Conduct a cleaning no later than 30 days *after* the first use.

General Startup Procedure

1. Clean and disinfect the cooling tower

If not eligible for the alternative process described above, initiate standard startup. Clean the cooling tower through power washing or scrubbing, no later than 15 days before the first use, to remove biofilm, scale or other debris. Once cleaned, disinfect with an approved biocide(s) to kill pathogens, such as *Legionella*.

2. Conduct a pre-startup inspection

Enlist your qualified person to conduct and document the pre-startup inspection. The required inspection includes: visually assessing the cooling tower system; inspecting all components for the presence of contaminants and other adverse conditions; checking that the water treatment equipment is working properly; and ensuring that records are complete.

3. Fill system and circulate water

Once disinfected, fill the cooling tower system with water and begin circulating biocides and chemicals, as specified in the MPP. At this point, the system is operational and must meet all New York City requirements.

4. Take a *Legionella* culture sample within 14 days of startup (or within 3-7 days after disinfection if using alternative process)

Collect and analyze a water sample for the presence of *Legionella*. The sample must be analyzed by a laboratory certified by the Environmental Laboratory Approval Program from the NYS Department of Health. The results must then be interpreted, and action taken, as described in Table 8-1 of Chapter 8.

5. Document procedures.

Keep detailed records of all procedures and actions performed. Startup records should include cooling tower system ID; system startup date; individual cooling tower startup date (if different than the system startup date); and dates and procedures for startup cleaning and disinfection, including the service provider, pre-startup inspection, *Legionella* sampling and test results, disinfection dose and circulation time, water monitoring and treatment logs. The qualified person needs to upload the *Legionella* sampling date to the NYC Registration Portal within 5 days of sample collection.

Shutdown Procedures for Cooling Towers (Spring 2020 update)

Shutdown requirements for cooling towers are provided in §8-06(a) of Title 24 of Chapter 8 of the Rules of the City of New York City. Below is an alternative shutdown process during the COVID-19 pandemic, as well as general step-by-step instructions for shutdown.

Alternative Shutdown Process During the COVID-19 Pandemic

If your building has staffing shortages and the cooling tower needs to be shut down, completely drain and inactivate the cooling tower. Make sure the fan is off and that any automated controls are set to keep the fan off. The building may delay the shutdown cleaning and disinfection to a later date. However, cleaning and disinfection MUST be performed and documented prior to starting up the cooling tower for any reason or by June 1, 2020, whichever occurs first.

General Shutdown Procedure

1. Determine a shutdown date and disinfect the cooling tower system

Choose a date where it is unlikely that the cooling tower will be restarted for the season. A few days before planned shutdown, increase bleed-off to reduce the amount of solids. The day before shutdown, apply biocide at the maximum recommended dosage to kill any bacterial or viral contaminants.

The cooling tower system is shut down only if *all* equipment in that system is shut down. If any equipment is operating, water must be circulated, biocide applied; routine management, maintenance and operation procedures conducted.

Additionally, idle systems (not fully drained or not taking on a heat load) are not considered shut down and the system must continue to meet all Chapter 8 requirements.

2. Drain, inspect, and clean the cooling tower system

Sweep off the distribution deck of the tower(s) while system is operating. Then drain down and wash out the tower fill and sump. Inspect system and perform any needed maintenance. Physically clean the system. Take controllers offline and remove and protect probes. The heat exchanger/chiller and pipes must be completely drained of water.

3. Refill, flush and drain cooling tower system

Refill the cooling tower system with water and flush biocides through the system, following manufacturer's instructions. The entire system must then be fully drained for it to be considered shut down.

4. Document procedures.

Keep detailed records of all procedures and actions performed. Regularly review the NYC Registration Portal to update any changes to your cooling tower system information, including the season start and end dates. Shutdown records should include cooling tower system ID; system shutdown date; individual cooling tower shutdown date (if different than the system shutdown date); and dates and procedures for shutdown cleaning and disinfection, including the service provider, initial drainage, cleaning, any maintenance, disinfection dose and circulation time, and final drainage.