



NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE

NOTICE OF ADOPTION OF AMENDMENTS TO CHAPTER 8 OF TITLE 24 OF THE RULES OF THE CITY NEW YORK

In compliance with §1043(b) of the New York City Charter (Charter), the New York City Department of Health and Mental Hygiene (Department) submitted a notice of public hearing and opportunity comment to amend Chapter 8 of Title 24 of the Rules of the City of New York (RCNY), which was published in the City Record on May 29, 2020 and a public hearing was held on June 29, 2020. At the public hearing, two individuals testified and 17 written comments were received. Most of the comments requested clarification as to implementation of the rule change and will be addressed in a separate Frequently Asked Questions document that will be posted on the Department's website. Several comments addressed concerns with the two-day reporting window for the declaration and the timeframe for collecting the post-hyperhalogenation *Legionella* culture sample. In response to the public comments and on its own initiative, the Department has made the following amendments to the rule:

- Revised the time period to collect *Legionella* culture sample in §8-04(f)(4) to be between 3 and 45 days after summertime hyperhalogenation, to be consistent with the existing 3 to 7 day post-corrective action sampling requirements in Table 8-1.
- Revised §8-04(f)(5) to require a declaration of summertime hyperhalogenation instead of an affidavit; the declaration will not require a notary public for submission.
- Extended the submission period in §8-04(f)(5) from 2 days to 30 days to provide additional time for compliance.
- Added clarification to §8-04(f)(5) that "The declaration must be kept with required building records in accordance with §8-07(a)."

Statement of Basis and Purpose

Statutory Authority

This amendment is made pursuant to sections 556 and 1043 of the Charter and section 17-194.1 of the New York City Administrative Code (Administrative Code). Section 556 of the Charter authorizes the Department to regulate all matters pertaining to the health of the City. Charter section 1043 grants the Department rulemaking authority. Section 17-194.1 of the Administrative Code requires owners of buildings with cooling towers to maintain, clean and disinfect such cooling towers and authorizes the Department to adopt rules to implement these requirements.

Chapter 8 of Title 24 of the RCNY (Chapter 8) contains the Department's rules for the operation and maintenance of cooling towers in the City. A cooling tower is a device that extracts heat to the atmosphere through the cooling of a water stream to a lower temperature. The term "cooling tower" includes any evaporative cooling equipment with recirculating water, including direct (open circuit) and indirect (closed circuit) cooling towers, evaporative condensers, or evaporative spray fluid coolers capable of aerosolizing water. Common applications of cooling towers are for air conditioning, refrigeration, industrial/manufacturing processing or electric power generation. This includes mobile or portable cooling towers. A cooling tower may comprise one or more cooling tower cells.

Because water within a cooling tower uses heat exchange, it can provide an ideal environment for *Legionella* bacteria to grow, particularly if the cooling tower is not properly disinfected and

maintained. Exposure to the *Legionella* bacteria (*Legionella pneumophila*) can cause Legionellosis disease. Cases of Legionellosis must be reported to the Department in accordance with section 11.03 of the Health Code and section 2.1 of the New York State Sanitary Code (found in title 10 of the New York Codes, Rules and Regulations). The more serious form of Legionellosis is a pneumonia known as Legionnaires' disease; a less serious form of Legionellosis is known as Pontiac fever, which is a flu-like illness. Legionnaires' disease is known to have a case fatality rate of 5-30%. The US Centers for Disease Control and Prevention estimates that there are between 8,000 and 18,000 cases of Legionnaires' disease in the United States annually and that more than 10% of cases are fatal.¹

Section 8-04 of Chapter 8 provides requirements for cooling tower process control measures. The Department is requiring a summertime hyperhalogenation, a one-time per year dosing of higher-than-normal levels of chlorine or bromine based biocide, to each cooling tower system between July and August 31. Periodic hyperhalogenation is an effective method of limiting *Legionella* in recirculating water by preventing the risk of biofilm growth, which can be a host for *Legionella* survival and replication. Periodic hyperhalogenation performed routinely, while ensuring water flow throughout the cooling tower system and all its components, may reduce the need for more intensive cleaning and disinfection procedures in the future. The Department's *Legionella* sampling results indicate that concentrations of the bacteria are highest during the summertime months. Surveillance data also indicates more cases of Legionnaires' disease during the summertime.

Accordingly, Section 8-04 is amended by establishing a new subdivision (f) requiring a summertime hyperhalogenation to be conducted for each cooling tower system at least once each year between July 1 and August 31. Summertime hyperhalogenation is expected to occur this summer, 2020, but an owner is not required to update their cooling tower maintenance plans until the 2021 cooling season. Finally, the penalty schedule in §8-09 of Chapter 8 is amended to include monetary penalties associated with the violation of this requirement.

The amendments are as follows:

Underlined text is new.

Deleted text is in [brackets].

“Shall” and “must” denote mandatory requirements and may be used interchangeably in the rules of this Department, unless otherwise specified or unless the context clearly indicates otherwise.

Section 1. Section 8-02 of Chapter 8 of Title 24 of the Rules of the City of New York is amended by adding a new definition of “summertime hyperhalogenation” in alphabetical order to read as follows:

“Summertime hyperhalogenation” means a one-time per year dosing of higher than normal levels of chlorine or bromine based biocide conducted between July 1 and August 31 to ensure the maintenance of a minimum of 5 parts per million (ppm) free halogen residual in the cooling tower system for at least 6 hours.

¹ <http://www.cdc.gov/legionella/fastfacts.html>
<http://www.cdc.gov/legionella/index.html>
<http://www.cdc.gov/legionella/about/treatment-complications.html>

Section 2. Section 8-04 of Chapter 8 of Title 24 of the Rules of the City of New York is amended by adding a new subdivision (f) to read as follows:

(f) Summertime hyperhalogenation. (1) A cooling tower system must undergo a summertime hyperhalogenation at least once each year between July 1 and August 31 in accordance with this subdivision. The hyperhalogenation must be performed by a person qualified to apply biocide pursuant to §8-05(c)(1). The hyperhalogenation must be performed with a registered chlorine or bromine based biocide that is effective at Legionella control in accordance with §8-05(c). A cooling tower system is exempt from this subdivision if it is in full system shutdown and completely drained of water, in accordance with §8-06(a), for the entire period between July 1 and August 31.

(2) Prior to the hyperhalogenation, the cooling tower system must be prepared to ensure that water flow reaches the entire cooling tower system. Biocide applied during the hyperhalogenation must reach all parts of the cooling tower system, including offline or standby equipment that may be out of service, or only used on-demand or during peak demand periods.

(3) During the hyperhalogenation, a minimum of 5 ppm free halogen residual must be continuously maintained in the cooling tower system for at least six hours. Additionally, the pH and halogen residuals must be measured at two independent sampling locations within the cooling tower system during the hyperhalogenation to verify the minimum biocide residual was achieved and maintained. The water treatment program shall be reviewed by the management and maintenance team to determine if additional chemical inhibitors are desirable to prevent corrosion and scaling.

(4) A Legionella culture sample must be collected in accordance with §8-05(f)(3) within 3 to 45 days after the hyperhalogenation required by paragraph (1) of this subdivision. Sample results must be interpreted, and corrective actions implemented, in accordance with the result levels indicated in Table 8-1 of this Chapter.

(5) An owner must submit a declaration of summertime hyperhalogenation within 30 days of completion of the hyperhalogenation required by paragraph (1) of this subdivision through the NYC Cooling Tower Registration Portal. The declaration must include the cooling tower system ID; the hyperhalogenation protocol performed, including the name and quantity of biocides and chemicals applied; dose and contact time; effective pH range of biocides; pH and halogen residual monitoring results during hyperhalogenation; service date and name and qualifications of the person who applied the biocide. The declaration must be kept with required cooling tower records in accordance with §8-07(a).

Section 3. Section 8-09 of Chapter 8 of Title 24 of the Rules of the City of New York is amended by adding a new penalty for section of law 24 RCNY §8-04(f) in numerical order to read as follows:

<u>24 RCNY §8-04(f)</u>	<u>Failure to submit declaration of a hyperhalogenation performed at least once each year between July 1 and August 31</u>	<u>\$500</u>	<u>\$1000</u>
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FINDING OF SUBSTANTIAL NEED FOR EARLIER IMPLEMENTATION

I hereby find and represent to the Mayor that there is a substantial need for the implementation, immediately upon its final publication in the City Record, of these amended New York City Department of Health and Mental Hygiene (Department) rules concerning cooling tower operations. Under these amended rules, the Department is requiring owners of cooling towers to perform a summertime hyperhalogenation, a one-time per year dosing of higher-than-normal levels of chlorine or bromine based biocide, to each cooling tower system between July 1 and August 31 in order to mitigate bacteria growth that could be aerosolized by improperly maintained cooling towers and thereby threaten public health.

The Department's sampling results indicate that concentrations of *Legionella* bacteria are highest during the summertime months. Surveillance data also indicates more cases of Legionnaires' disease during the summertime. Periodic hyperhalogenation is an effective method of limiting *Legionella* in recirculating water by preventing the risk of biofilm growth, which can be a host for *Legionella* survival and replication. Summertime hyperhalogenation is expected to occur this summer 2020.

In order to afford owners of building with cooling towers as much time as possible and as early in the summer season as possible in order to comply with these new requirements, I find that there is a substantial need for the protection of public health for bringing these rules into effect immediately upon publication in the City Record.

This declaration is made pursuant to Section 1043(f)(1)(c) of the New York City Charter.



Oxiris Barbot, MD
Commissioner
New York City Department of Health and Mental Hygiene

APPROVED:



Bill de Blasio
Mayor