



NEW YORK CITY DEPARTMENT OF

HEALTH AND MENTAL HYGIENE

Mary T. Bassett, MD, MPH

Commissioner

Annual Report on the Status of Primary Indicators Associated with Cooling Towers

Introduction

This report is submitted pursuant § 3 of Local Law 77 (LL77), which requires that the Commissioner of the Department of Health and Mental Hygiene (DOHMH) submit to the Mayor and City Council Speaker, by May 15th, a report detailing the status of the Office of Building Water Supply Oversight's (BWSO) cooling tower program and the number of cases of Legionnaire's disease in the city. Specifically LL77 requires the following information for the time period of November 2, 2015 through November 1, 2016;

1. The number of new cooling tower registrations
2. The number of notifications of discontinued use (decommissioning) of a cooling
3. The number of annual certifications that a cooling tower was inspected, tested, cleaned and disinfected
4. The number of reports of tests for the presence of microbes that reveal levels that present a serious health threat received by the department of health and mental hygiene
5. The number of cooling tower system inspections conducted
6. The number and types of any violations cited during such inspections;
7. The number of cleanings, disinfections or other actions performed by or on behalf of the department
8. The number of persons diagnosed with Legionnaire's disease in the city in each of the previous 10 years

During the time period for this report, DOHMH promulgated 24 RCNY 8 (Chapter 8 of Title 24 of the Rules of the City of NY, which are commonly referred to as "Commissioner of Health Regulations"), which forms the regulatory framework for reducing the disease risk associated with the spread of Legionella bacteria by improperly maintained and operated cooling tower systems.

Program Implementation

In May 2016, DOHMH established a program to promote compliance with Local Law 77 and Chapter 8. DOHMH quickly hired more than 60 staff members. Staff were trained to inspect cooling towers and the DOHMH launched a new handheld computer system that allows inspectors to record inspection findings while in the field. To promote compliance, the DOHMH drafted and distributed guidance documents for the regulated community, including a Management Program and Plan (MPP) template, guidance on how to build a cooling tower system team, and general FAQs.

As of November 1, 2016, 6,055 cooling towers were registered with DOB, representing 4,806 cooling tower systems in 3,972 buildings across all five boroughs. Routine inspections were initially conducted among 600 cooling towers located in areas at highest risk for Legionnaires' disease, including the sites of the 2015 outbreaks, all other sites located in the South and East Bronx, and sites located in areas where



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household incomes are below the federal poverty level. Between April 7, 2016 (the first day routine inspections were performed) and November 1, 2016, the DOHMH inspected 964 cooling towers. Beginning with inspections conducted on June 9, 2016, DOHMH began issuing summonses for violations noted during the course of an inspection.

Although it is too early to measure the impact of the legislation on rates of disease, it is clear that the inspection efforts have improved operation and maintenance of cooling towers. The inspection program has resulted in cooling towers with significant levels of *Legionella* being remediated. Routine testing by building owners has triggered interventions prior to *Legionella* levels amplifying. Additionally, the cooling tower registration system has allowed DOHMH to quickly inspect cooling towers in areas that have seen increases in Legionnaires disease.

Data Reporting

Table 1 below provides much of the information required by LL77 for the period from 11/2/2015 through 11/1/2016. As a background, there are 30 possible violations divided into three categories:

- **Public Health Hazard (PHH).** A PHH is a condition that demonstrates a lack of basic cooling tower system monitoring and management and is the most serious category. Out of the 30 possible violations, three are classified as PHH: not having an MPP, failure to take a recent *Legionella* sample, and failure to take a corrective action following a high *Legionella* sample.

Because PHH present a significant risk, they must be corrected quickly. If the violation is for failing to take a sample, DOHMH takes a sample at the time of the inspection. If the violation is for failing to take corrective action following a high *Legionella* sample result, the building owner is directed to take corrective action based on the level of the *Legionella* culture result. For example, if the *Legionella* culture result indicates the presence of greater than 1000 CFU/ml of *Legionella*, the building owner is required to initiate disinfection by increasing biocides within 24 hours; perform full remediation of the tower by hyperhalogenating, draining, cleaning and flushing within 48 hours; and retest water within three to seven days.

If a PHH is cited, DOHMH follows up with building management until the violation has been corrected.

- **Critical.** A critical violation is a condition that demonstrates a lack of process control associated with treatment, cleaning, disinfection and management of the cooling tower system. There are 14 possible critical violations.
- **General.** A general violation is associated with conditions that demonstrates a lack of recordkeeping, administrative control or non-critical process control. There are 13 possible general violations.

Figure 1 illustrates the number of persons diagnosed with Legionnaire's disease in the city in each of the previous 10 years. It should be noted that Table 8-1 of Chapter 8 requires that samples from cooling towers with results greater than 1,000 cfu/mL be reported to DOHMH and that cleaning and disinfection of the offending cooling tower takes place within 48 hours of receipt of the sample result.



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Table 1- Local Law 77 Reporting Metrics for Time Period 11/2/2015 – 11/1/2016

Reporting Condition	Total # (11/2/2015 through 11/1/2016)
New cooling tower registrations	679
Decommission Notifications	47
Annual Certifications*	3,283
Number of <i>Legionella</i> Results > 1,000 CFU/mL	30
Cooling Towers Inspected**	964
Violations Cited***	976
<i>Public Health Hazard Violations Cited</i>	180
<i>Critical Violations Cited</i>	655
<i>General Violations Cited</i>	141
Cleanings/disinfections performed by or on behalf of the Department	0

*An annual certification must be submitted by November 1st of the certification year. Approximately 2,700 cooling towers failed to submit their annual certification and can be subject to enforcement action from DOB.

**Inspections began April 2016.

***Cooling tower systems may receive more than one violation

Fig. 1 Reported Legionellosis Cases, NYC, 2007-2016

