



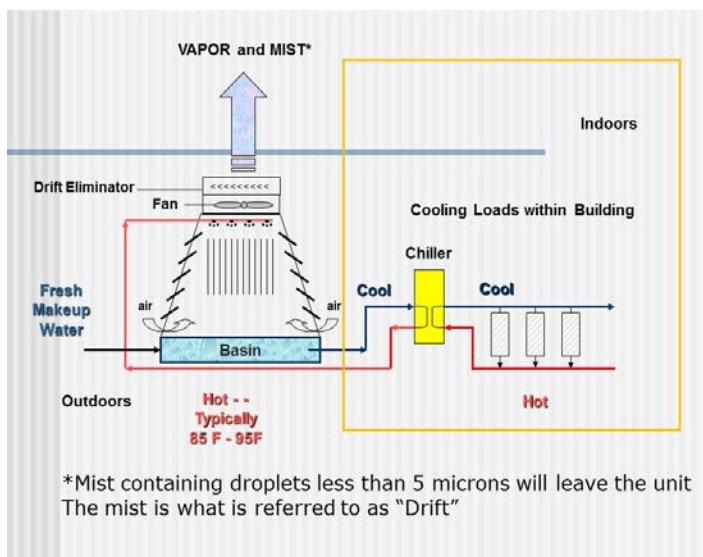
New York State Department of Health Emergency Regulation:

10 NYCRR Part 4 "Protection Against Legionella"

Required Actions for Cooling Tower Owners

An Emergency Regulation became effective on August 17, 2015 to protect against outbreaks of Legionnaires' Disease associated with cooling towers. If cooling towers are not operated and maintained properly, bacteria such as *Legionella* can grow and be dispersed into the air in tiny water droplets or mist. People can get Legionnaires' Disease by breathing the droplets or mist. This brochure is part of the Department's efforts to facilitate regulatory compliance through outreach and education. More information about the disease can be found at http://www.health.ny.gov/diseases/communicable/legionellosis/fact_sheet.htm.

The regulation requires that all owners **register their cooling towers with New York State. Additional requirements for cooling towers include: regular inspection; annual certification; obtaining and implementing a maintenance plan; record keeping; reporting of certain information; and sample collection and culture testing.** The Emergency Regulation is posted on the New York State Department of Health website at http://www.health.ny.gov/regulations/emergency/docs/protection_against_legionella.pdf. Please refer to the Emergency Regulation for complete details regarding what is required to comply.



REGISTRATION:

What is a cooling tower?

The term "cooling tower" means a cooling tower, evaporative condenser or fluid cooler that is part of a recirculated water system incorporated into a building's cooling, industrial process, refrigeration or energy production system. It can be located on or off the building.

How do I register a cooling tower?

Register your cooling tower on the NYS Department of Health website at <http://ct.doh.ny.gov/>. **All cooling towers in New York State, including New York City, must be registered in the NYS system.**

What information is needed to register?

In addition to the building address, you will need to know the owner(s) name, address, phone number, and email address. Note that a property manager is considered an “owner” for the purposes of the regulation. For the equipment, you will need to know the manufacturer, model, serial number (if available), capacity (tonnage), basin capacity, method of systematic disinfection, who will be inspecting and certifying the cooling tower, and the commissioning date of the cooling tower. Once you have all the information, it should take about ten minutes to register each building and cooling tower. Multiple cooling towers owned by one person can be entered under one account.

CULTURE SAMPLING, TESTING, and DISINFECTION:**What type of sampling must be done?**

Bacteriological culture sample collection must be performed using dip slides or heterotrophic plate counts or may be a culture specific for legionella bacteria. Immediate and appropriate action must be taken in response to test results. Dip slides and heterotrophic plate counts should be interpreted per industry standards and Legionella culture results according to Appendix 4-A of the regulation. Until a maintenance program and plan is in place, sampling must be performed every 90 days while the tower is in use.

How do I find a laboratory to analyze those samples?

- *For dip slides, your cooling tower service provider can perform this test and may also be able to complete the analysis.*
- *For heterotrophic plate counts (or standard plate count) send to a NYS Environmental Laboratory Approval Program (ELAP) certified laboratory. Here is the link to the ELAP certified laboratories: <http://www.wadsworth.org/labcert/elap/comm.html>. Use laboratories that are certified for non-potable water.*
- *For Legionella cultures, a list of the CDC ELITE certified laboratories can be found at: <https://wwwn.cdc.gov/elite/public/memberlist.aspx>*

Who can disinfect a cooling tower?

Disinfection must be done by a commercial pesticide applicator, pesticide technician, or a pesticide apprentice under the supervision of a certified applicator who is qualified and certified to apply biocide in a cooling tower. A biocide is considered a pesticide. The NYS Department of Environmental Conservation maintains a list of qualified pesticide professionals: <http://www.dec.ny.gov/nyspad/>. Any questions can be directed to the Bureau of Pest Management at 518-402-8748.

INSPECTION AND CERTIFICATION:**When should inspections be done?**

Initial inspections must be performed at intervals no longer than every 90 days while the tower is in use.

Who may perform inspections?

Inspections must be performed by a New York State licensed professional engineer, certified industrial hygienist, certified water technologist, or environmental consultant with training and experience performing inspection in accordance with current standard industry protocols. See the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) website at www.ashrae.org to purchase the 188-2015 standards.

When should cooling towers be certified and how often?

Cooling towers must be certified by November 1, 2016 and each year after that. The certification must state that the cooling tower was inspected, tested, cleaned, and disinfected in compliance with the regulation. The qualifications for issuing certifications are the same as for performing inspections.

MAINTENANCE, REPORTING AND RECORD KEEPING:

When should maintenance plans be developed?

A maintenance program and plan for each cooling tower needs to be in place by March 1, 2016. The maintenance program and plan should include:

- *A schedule for routine bacteriological sampling and analysis*
- *A plan for emergency sample collection and analysis for Legionella culture testing, when needed*
- *A plan for immediate action in response to bacteriological culture test results*

What kind of records must be maintained?

The maintenance program and plan, along with records of inspection findings, deficiencies, corrective actions, cleaning, disinfection, tests and certification must be kept in electronic or hard copy on the premises where the cooling tower is located so they will be readily available for inspection by the State or local health department. Records must be maintained for at least three (3) years.

Questions? E-mail cooling.tower@health.ny.gov or call 518-402-7650.

Protection Against Legionella

Effective Date: 7/6/2016

Public Health Law, Section 225(5)(a) VOLUME A (Title 10)

4-1.1 Scope.

All owners of cooling towers shall comply with this Subpart.

4-1.2 Definitions.

As used in this Subpart, the following terms shall have the following meanings:

(a) *Bacteriologic culture sampling and analysis.* The term *bacteriologic culture sampling and analysis* means the collection of a water sample for the measurement of live culture growth of the aerobic bacterial populations by heterotrophic plate count (HPC), dip slides, or similar method used by the industry and according to the manufacturer's directions.

(b) *Building.* The term *building* means any structure used or intended for supporting or sheltering any use or occupancy. The term shall be construed as if followed by the phrase "structure, premises, lot or part thereof" unless otherwise indicated by the text.

(c) *Cooling Tower.* The term *cooling tower* means a cooling tower, evaporative condenser, fluid cooler or other wet cooling device that is capable of aerosolizing water, and that is part of, or contains, a recirculated water system and is incorporated into a building's cooling process, an industrial process, a refrigeration system, or an energy production system.

(d) *Legionella culture sampling and analysis.* The term *Legionella culture sampling and analysis* means the collection of a water sample for the measurement of the live culture of *Legionella* involving the use of specialized media and laboratory methods for growth to determine the species and serogroup.

(e) *Owner.* The term *owner* means any person, agent, firm, partnership, corporation or other legal entity having a legal or equitable interest in, or control of, a cooling tower or the premises where the cooling tower is located. In all instances, the legal owner of the building shall be deemed an owner within the meaning of the Subpart. Further, where a tenant owns a cooling tower that services the tenant's leased premises, the tenant is an "owner" within the meaning of this Subpart. Additionally, if a tenant does not own the cooling tower but has a lease or contractual arrangement to maintain the cooling tower, the tenant shall be deemed an agent having control of the cooling tower, and thus an "owner," for purposes of this Subpart.

4-1.3 Electronic registration and reporting.

(a) *Registration.* All owners of cooling towers shall register such towers with the department, using a statewide electronic system designated by the department, prior to initial operation, and whenever any owner of the cooling tower changes. Such registration shall include, at a minimum, the following information:

- (1) street address of the building at which the cooling tower is located, with building identification number, if any;
 - (2) name(s), addresses(es), telephone number(s), and email address(es) of the owner(s) of the cooling tower;
 - (3) name of the manufacturer of the cooling tower;
 - (4) model number of the cooling tower;
 - (5) specific unit serial number of the cooling tower, if available;
 - (6) cooling capacity of the cooling tower;
 - (7) cooling tower system volume, inclusive of all piping, basin(s), and sump;
 - (8) intended use of the cooling tower;
 - (9) whether the cooling tower operates year-round or seasonally and, if seasonally, start and end date of operation;
 - (10) whether systematic disinfection in accordance with section 4-1.7 of this Subpart is maintained manually, through timed injection, or through continuous delivery;
 - (11) whether maintenance is performed by in-house personnel, by a contractor, or by other parties; and
 - (12) year the cooling tower was placed into service.
- (b) *Reporting.* Effective upon adoption of the regulation, at intervals of no more than 90 days while a cooling tower is in use, the owner of the cooling tower shall report to the department using the statewide electronic system:
- (1) date of last bacteriological culture sample collection, the analysis result(s), and date of any required remedial action, pursuant to section 4-1.4(b)(1) of this Subpart;
 - (2) date of last *Legionella* culture sample collection, the analysis result(s), and date of any required remedial action, pursuant to section 4-1.4(b)(2) - (4) of this Subpart;
 - (3) date of last inspection, pursuant to section 4-1.8 of this Subpart;
 - (4) date of last certification, pursuant to section 4-1.8 of this Subpart;
 - (5) date of removal or permanent discontinued use of the cooling tower, if applicable; and
 - (6) such other information as shall be determined by the department.
- (c) The department shall make data in the statewide electronic system publicly available, as appropriate. The statewide electronic system shall be made fully accessible and searchable to any local health department. Nothing in this Subpart shall preclude a local health department from requiring registration and reporting with a local system or collecting fees associated with the administration of such system.

(d) Where both a landlord and a tenant are considered “owners” of a cooling tower pursuant to Section 4-1.2 of this Subpart, either the owner or the tenant shall register the cooling tower. However, both parties are obligated to ensure that registration and reporting are completed as required by this Subpart.

4-1.3 Electronic registration and reporting.

(a) *Registration.* All owners of cooling towers shall register such towers with the department, using a statewide electronic system designated by the department, prior to initial operation, and whenever any owner of the cooling tower changes. Such registration shall include, at a minimum, the following information:

- (1) street address of the building at which the cooling tower is located, with building identification number, if any;
- (2) name(s), addresses(es), telephone number(s), and email address(es) of the owner(s) of the cooling tower;
- (3) name of the manufacturer of the cooling tower;
- (4) model number of the cooling tower;
- (5) specific unit serial number of the cooling tower, if available;
- (6) cooling capacity of the cooling tower;
- (7) cooling tower system volume, inclusive of all piping, basin(s), and sump;
- (8) intended use of the cooling tower;
- (9) whether the cooling tower operates year-round or seasonally and, if seasonally, start and end date of operation;
- (10) whether systematic disinfection in accordance with section 4-1.7 of this Subpart is maintained manually, through timed injection, or through continuous delivery;
- (11) whether maintenance is performed by in-house personnel, by a contractor, or by other parties; and
- (12) year the cooling tower was placed into service.

(b) *Reporting.* Effective upon adoption of the regulation, at intervals of no more than 90 days while a cooling tower is in use, the owner of the cooling tower shall report to the department using the statewide electronic system:

- (1) date of last bacteriological culture sample collection, the analysis result(s), and date of any required remedial action, pursuant to section 4-1.4(b)(1) of this Subpart;
- (2) date of last *Legionella* culture sample collection, the analysis result(s), and date of any required remedial action, pursuant to section 4-1.4(b)(2) - (4) of this Subpart;

- (3) date of last inspection, pursuant to section 4-1.8 of this Subpart;
- (4) date of last certification, pursuant to section 4-1.8 of this Subpart;
- (5) date of removal or permanent discontinued use of the cooling tower, if applicable; and
- (6) such other information as shall be determined by the department.

(c) The department shall make data in the statewide electronic system publicly available, as appropriate. The statewide electronic system shall be made fully accessible and searchable to any local health department. Nothing in this Subpart shall preclude a local health department from requiring registration and reporting with a local system or collecting fees associated with the administration of such system.

(d) Where both a landlord and a tenant are considered "owners" of a cooling tower pursuant to Section 4-1.2 of this Subpart, either the owner or the tenant shall register the cooling tower. However, both parties are obligated to ensure that registration and reporting are completed as required by this Subpart.

4-1.4 Maintenance program and plan.

(a) By September 1, 2016, and thereafter prior to initial start-up of a newly installed cooling tower, the owner shall obtain or update a maintenance program and plan for each cooling tower, developed in accordance with section 7.2 of Legionellosis: Risk Management for Building Water Systems (ANSI/ASHRAE 188-2015), 2015 edition with final approval date of June 26, 2015, at pages 7-8, incorporated herein by reference. The latest edition of ASHRAE 188-2015 may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 678-539-2129. Telephone: 404-636-8400, or toll free 1-800-527-4723. Copies are available for inspection and copying at: Center for Environmental Health, Corning Tower Room 1619, Empire State Plaza, Albany, NY 12237.

(b) In addition, the maintenance program and plan shall include the following elements:

(1) a schedule for routine bacteriological culture sampling and analysis to assess microbiological activity at intervals not to exceed 30 days while the cooling tower is in use, and that requires additional bacteriological culture sampling and analysis, as needed, to validate process adjustments;

(2) a schedule for routine *Legionella* culture sampling and analysis within 14 days of seasonal start-up and, thereafter, at intervals not to exceed 90 days while the cooling tower is in use. Cooling towers in use year-round must sample at intervals not to exceed 90 days, and within two weeks after start-up following maintenance;

(3) in addition to the routine *Legionella* culture sampling and analysis required by paragraph (2) of this subdivision, conditions that require immediate *Legionella* culture sampling and analysis, which shall include, but are not limited to:

- (i) power failure of sufficient duration to allow for the growth of bacteria;
 - (ii) loss of biocide treatment of sufficient duration to allow for the growth of bacteria;
 - (iii) failure of conductivity control, or any other control methods, to maintain proper cycles of concentration;
 - (iv) a determination by the department or local health department that one or more cases of legionellosis is or may be associated with the cooling tower, based upon epidemiologic data or laboratory testing; and
 - (v) any other conditions specified by the department or local health department.
- (4) provisions requiring immediate and appropriate action, including remedial action, in response to bacteriological and *Legionella* culture analyses. For *Legionella* culture analyses, such provisions shall include, but not be limited to, taking all responsive actions required by [Appendix 4-A](#), including contacting the local health department within 24 hours pursuant to the conditions specified in section 4-1.6 of this Subpart;
- (5) provisions requiring that any and all *Legionella* culture analyses must be performed in accordance with section 4-1.5 of this Subpart;
- (6) a shutdown and disinfection plan for removing or permanently discontinuing use of a cooling tower;
- (7) provisions requiring treatment and manual or automated flushing of any piping, basin, sump, or wetted surface during idle conditions; and
- (8) provisions requiring cleaning and disinfection prior to startup of a stagnant cooling tower that has been shut down without treatment and recirculation for more than five consecutive days.

4-1.5 *Legionella* culture analysis.

All *Legionella* culture analyses must be performed by a laboratory that is approved to perform such analysis by the New York State Environmental Laboratory Approval Program (ELAP).

4-1.6 Notification.

- (a) The owner of a cooling tower shall notify the local health department within 24 hours of receipt of a *Legionella* culture sample result that exceeds 1,000 colony forming units per milliliter (CFU/mL). The local health department shall notify the state department of health with 24 hours of receipt of such a report.
- (b) The owner shall notify the public of such test results in a manner determined by the local health department or, in the event that the department elects to determine the manner of public notification, by the department.

4-1.7 Disinfection.

- (a) Any person who disinfects a cooling tower shall be a commercial pesticide applicator or pesticide technician who is qualified to apply biocide in a cooling tower and certified in accordance with the requirements of Article 33 of the Environmental Conservation Law and 6 NYCRR Part 325, or a pesticide apprentice under the supervision of a certified applicator.
- (b) The name and certification number of the applicator or the business name and registration number of the company providing the disinfection shall be maintained on-site in accordance with section 4-1.9 of this subpart.
- (c) Only biocide products registered by the New York State Department of Environmental Conservation for use in cooling towers or pesticidal devices produced in a USEPA registered establishment may be used in disinfection.
- (d) The terms "disinfect" and "disinfection" in this Part means the control of microorganisms or microbial growth. The term "disinfection" shall not include the cleaning of a cooling tower through application of detergents, penetrants, brushes or other tools, high-powered water, or any other method that does not involve the use of a pesticide, as defined in 6 NYCRR Part 325.

4-1.8 Inspection and certification.

- (a) Inspection.
 - (1) All owners of cooling towers shall ensure that such towers are inspected prior to seasonal start-up and at intervals not exceeding every 90 days while in use. Year-round towers shall be inspected at intervals not exceeding every 90 days and prior to start-up, following maintenance.
 - (2) All inspections shall be performed by a: New York State licensed professional engineer; certified industrial hygienist; certified water technologist; environmental consultant or water treatment professional with training and experience performing inspections in accordance with current standard industry protocols including, but not limited to ASHRAE 188-2015, as incorporated by section 4-1.4 of this Subpart.
 - (3) Each inspection shall include an evaluation of the:
 - (i) cooling tower and associated equipment for the presence of organic material, biofilm, algae, debris and other visible contaminants;
 - (ii) general condition of the cooling tower basin, remote sump, packing material, and drift eliminators;
 - (iii) water make-up connections and control, including backflow protection and/or airgaps as needed;
 - (iv) proper functioning of the conductivity control; and
 - (v) proper functioning of all water treatment equipment, including, but not limited to, pumps, timers, valves, and strain gauges.

(4) Any deficiencies found during inspection shall be reported to the owner for immediate corrective action. A person qualified to inspect pursuant to subdivision (a) of this section shall document all deficiencies, and all completed corrective actions.

(b) *Certification.* By November 1, 2016, and by November 1st of each year thereafter, the owner of a cooling tower shall obtain a certification from a person identified in subdivision (a) of this section, that such cooling tower has a maintenance program and plan, and that all activities within that plan or required by this Subpart were implemented, including but not limited to:

(1) all bacteriological culture sampling and analysis;

(2) all *Legionella* culture sampling and analysis, including any immediate *Legionella* culture sampling and analysis performed pursuant to paragraphs (b)(3) and (b)(4) of section 4-1.4 of this Subpart;

(3) any disinfection performed pursuant to section 4-1.7 of this Subpart; and

(4) all inspections performed pursuant subdivision (a) of this section.

(c) *Reporting.* All inspection findings, deficiencies, and corrective actions, and all certifications, shall be reported to the owner, who shall retain such information, in accordance with section 4-1.9 of this Subpart.

4-1.9 Recordkeeping.

The owner of a cooling tower shall maintain records for at least three years of all sampling and analyses; disinfection schedules and applications; inspection findings, deficiencies, and corrective actions; and certifications. An owner shall maintain a copy of the maintenance program and plan required by this Subpart on the premises where a cooling tower is located. Such records and plan shall be made available to the department or local health department immediately upon request.

4-1.10 Enforcement.

(a) The department or local health department may require any owner to conduct *Legionella* culture sampling and analysis, following a determination, based upon epidemiologic data or laboratory testing, that one or more cases of legionellosis are or may be associated with a cooling tower.

(b) An officer or employee of the department or local health department may enter onto any property to inspect a cooling tower for compliance with the requirements of this Subpart, in accordance with applicable law, and may take water samples as part of such inspections.

(c) Where an owner does not register, have a maintenance program and plan, obtain certification, disinfect, perform or obtain culture sampling and analysis, or inspect a cooling tower within the time and manner set forth in this Subpart, the department or local health department may determine that such condition constitutes a nuisance and may take such action

as authorized by law. The department or local health department may also take any other action authorized by law.

(d) A violation of any provision of this Subpart is subject to all civil and criminal penalties as provided for by law. Each day that an owner remains in violation of any provision of this Subpart shall constitute a separate and distinct violation of each such provision.

4-1.11 Variances and waivers.

(a) Variances. In order to allow time for compliance with this Subpart, an owner may submit a written application to a local health department for a variance from any provision of this Subpart, for a period not exceeding 90 days, accompanied by an explanation of why such variance will not present a danger to public health. With the approval of the department, the local health department may approve such application for a variance in writing, subject to any conditions that the department or local health department may deem appropriate to protect public health. The local health department or department may revoke such variance upon a determination that the variance may present a danger to public health.

(b) Waivers. The department may issue a written general or specific waiver with respect to any provision of this Subpart, subject to any conditions the department may deem appropriate, where the department is satisfied that such waiver will not present a danger to public health. The department may revoke such waiver upon a determination that the waiver may present a danger to public health.

4-1.12 Severability.

If any provisions of this Subpart or the application thereof to any person or entity or circumstance is adjudged invalid by a court of competent jurisdiction, such judgment shall not affect or impair the validity of the other provisions of this Subpart or the application thereof to other persons, entities, and circumstances.