



# ASHRAE 188-2018 SUMMARY

## Legionellosis: Risk Management for Building Water Systems

### INTRODUCTION

In June 2015 (updated in 2018), ASHRAE released Standard 188 for Legionella risk management. The standard does not provide prescriptive guidance around water treatment strategies or testing limits. The standard instead focuses on the creation and implementation of a documented risk management process by the owners and managers of buildings. This bulletin provides a brief, high-level overview of the standard. It is not meant to replace reading the standard.



### STANDARD APPLICABILITY

The applicability of the standard depends on a survey of the building's risk factors based on listed criteria.

1. Does the building have one or more of the following:
  - a) Open and closed circuit cooling towers or evaporative condensers that provide cooling and/or refrigeration for the HVAC&R systems or other systems or devices in the building.
  - b) Whirlpools or spas in the building or on the site.
  - c) Ornamental fountains, misters, atomizers, air washers, humidifiers, or other nonpotable water systems or devices that release water aerosols in the building or on site.
2. Is the building characterized by one or more of the following:
  - a) Multiple housing units with one or more centralized potable water heater systems.
  - b) Building is more than 10 stories high (includes below grade levels).
  - c) Healthcare facility where patient stays exceed 24 hours.
  - d) Building containing one or more areas for the purpose of housing or treating occupants receiving treatment for burns, chemotherapy for cancer,

solid organ transplantation, or bone marrow transplantation.

- e) Building containing one or more areas for the purpose of housing or treating occupants that are immunocompromised, at-risk, are taking drugs that weaken the immune system, have renal disease, diabetes, or chronic lung disease.
- f) Building identified as housing occupants over the age of 65 years.

If the building has one or more of the risk factors listed in items #1 and #2 above, then ASHRAE Standard 188 applies as follows:

- a) If a building contains any factors listed in item #1 (a–c) and no characteristics of item #2 (a–f), a water management program should be developed for only those systems identified in item #1.
- b) If a building is identified as having any of the characteristics in item #2 (a–f), a water management program should be developed for the potable building water system and any of the water systems of item #1 (if present).

Section 4.3 of Standard 188 also provides specific guidance for health care facilities.

## WATER MANAGEMENT PROGRAM PRINCIPLES SUMMARY

### **Team Structure**

The standard contemplates the creation of a team that includes building owners, facility management, maintenance personnel, and personnel from infection control, risk management, and senior management. The team should have a schedule for meetings and should identify those occurrences that prompt a team meeting. The team should document all meetings.

### **Building Analysis**

The standard contemplates a survey of the building water systems. The survey information provides a basis for identifying systems that pose a risk for legionellosis and creating a description of where the water enters a building, how it is processed or conditioned, and its end uses.

### **Flow Diagrams**

The standard contemplates flow diagrams for potable and/or utility water systems according to the factors in sections 1 and 2 above.

### **Control Measures and Monitoring**

The standard contemplates identification of control locations. Control locations are sites where controls are in place, or need to be in place, to control Legionella or its dissemination (e.g., potable water heaters, cooling towers). The team is to determine control measures, control limits, and monitoring systems/methods at the control locations, including the frequency of monitoring.

### **Corrective Actions**

The team must develop corrective actions when the control limits are out of range.

### **Verification**

The standard requires a procedure to verify implementation in accordance with the Water Management Program.

### **Validation**

The team must determine whether testing for Legionella should be performed and if so, how such test results should be used to validate the program, including testing approach, frequency, samples, locations, and method. The testing decision must include consideration of maintenance of program control limits, at-risk populations (for health care facilities), and prior history of legionellosis.

### **Documentation and Communication**

The water management program elements should be contained in a single document. Other information such as communication procedures, maintenance procedures, operational manuals, testing procedures and results, and water disruption plans are part of this documentation. The documentation requirements in Standard 188-2018 are very extensive, and they are detailed in sections 7 and 8 (and for some health care facilities, Annex A) of the standard.

Reference:

ASHRAE Standard 188-2018 – Legionellosis: Risk Management for Building Water Systems (ANSI Approved)

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