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NOTE

Approved addenda, errata, or interpretations for this standard can be downloaded free of charge from the ASHRAE website at www.ashrae.org/technology.

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## FOREWORD

The purpose of ASHRAE Standard 188 is to establish minimum legionellosis risk management requirements for building water systems.

"Legionellosis" refers to two distinct clinical illnesses. When the bacterium Legionella causes pneumonia, the disease is referred to as "Legionnaires' disease" (LD). The Centers for Disease Control and Prevention (CDC) estimates that each year there are between 8000 and 18,000 cases of LD in the United States and that more than 10% of these cases are fatal. Legionella can also cause a less-severe influenza-like illness known as "Pontiac fever." Most cases of legionellosis are the result of exposure to Legionella associated with building water systems.

The presence of Legionella bacteria in building water systems is not in itself sufficient to cause LD. Other necessary factors include environmental conditions that promote the growth of Legionella, a means of transmitting the bacteria to people in the building (e.g., aerosol generation), and exposure of susceptible persons to colonized water that is inhaled or aspirated into the lungs. Legionella bacteria are not transmitted person-to-person or from normal (nonaspirated) ingestion of contaminated water. Susceptible persons at high risk for legionellosis include but are not limited to the elderly, dialysis patients, persons who smoke, and persons with underlying medical conditions that weaken the immune system.

This standard is intended for use by owners and managers of human-occupied buildings and those involved in the design, construction, installation, commissioning, operation, maintenance, and service of centralized building water systems and components.

Standard 188 consists of numbered normative sections followed by normative and informative annexes. The normative sections and normative annex specify the requirements to comply with this standard. The informative annexes and informative bibliography are provided for guidance that may be helpful for a given building water system. Building water systems vary substantially in their design and their capability for transmission of Legionella. Scientific evidence is either lacking or inconclusive in certain aspects of Legionella control. Therefore, the informative annexes and informative bibliography to this document provide suggestions, recommendations, and references to guidance.

ASHRAE Standing Standard Project Committee (SSPC) 188 has devoted a considerable amount of time and thought to resolving the concerns of affected and interested parties. The committee thanks everyone who participated in the development of the standard, especially those who made public review comments. Because changes to improve the standard are anticipated, Standard 188 is now on continuous maintenance, permitting it to be updated through the publication of approved addenda. The planned schedule for republication with approved addenda and errata is anticipated to be every third year.

## 1. PURPOSE

The purpose of this standard is to establish minimum *Legio-nellosis* risk management requirements for *building water* systems.

## 2. SCOPE

**2.1** This standard provides minimum *legionellosis* risk management requirements for the design, construction, commissioning, operation, maintenance, repair, replacement, and expansion of new and existing buildings and their associated (potable and *nonpotable*) water systems and components.

**2.2** This standard applies to human-occupied commercial, institutional, multiunit residential, and industrial buildings. This standard does not include single-family residential buildings. Only where specifically noted in this standard shall certain *building water systems* or parts of *building water systems* be exempt.

**2.3** This standard is intended for use by owners and managers of human-occupied buildings, excluding single-family residential buildings. This standard is also intended for those involved in the design, construction, installation, commissioning, operation, maintenance, and service of *centralized building water systems* and components.

## 3. DEFINITIONS

*analysis of building water systems:* the systematic evaluation of potentially *hazardous conditions* associated with each step in the *process flow diagrams*.

*at-risk:* any person who is more susceptible than the general population to developing *legionellosis* because of age, health, medication, occupation, or smoking.

*authority having jurisdiction (AHJ):* an organization, office, or individual responsible for enforcing the requirements of this standard.

*beneficial occupancy:* stage of construction when all or part of a building is to be occupied for the purpose for which it was constructed, whether before or after completion.

*building water systems: potable* and *nonpotable water systems* in the building or on the site.

*centralized building water system:* any system that distributes water to multiple uses or multiple locations within the building or site.

*control:* to manage the conditions of an operation in order to maintain compliance with established criteria.

*control location:* a point where a physical, mechanical, operational, or chemical *control measure* is required.

*control limit:* a maximum value, a minimum value, or a range of values to which a chemical or physical parameter associated