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An American National Standard

Standard Guide for Inspecting Water Systems for Legionellae and Investigating Possible Outbreaks of Legionellosis (Legionnaires' Disease or Pontiac Fever)¹

This standard is issued under the fixed designation D 5952; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide covers appropriate responses for employers, building owners and operators, facility managers, health and safety professionals, public health authorities, and others: (1) to a concern that a manmade water system may be contaminated with the bacteria known as legionellae (see 6.1); and (2) to the identification of one or more cases of Legionnaires' disease or Pontiac fever due to inhalation of airborne legionellae (see 6.3-6.5). Comprehensive and explicit recommendations to limit legionella multiplication in water systems and to disinfect potential sources of human exposure to legionellae are beyond this guide's scope.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* See 7.3 and 8.5 for specific hazard statements.

2. Referenced Documents

2.1 ASTM Standards:

- D 512 Test Methods for Chloride Ion in Water²
- D 596 Practice for Reporting Results of Analysis of Water²
- D 887 Practices for Sampling Water-Formed Deposits³
- D 1067 Test Methods for Acidity or Alkalinity of Water²
- D 1129 Terminology Relating to Water²
- D 1192 Specification for Equipment for Sampling Water and Steam in Closed Conduits²
- D 1293 Test Methods for pH of Water²
- D 1356 Terminology Relating to Sampling and Analysis of Atmospheres⁴
- D 2331 Practices for Preparation and Preliminary Testing of Water-Formed Deposits³
- D 3370 Practices for Sampling Water from Closed Conduits²

D 3856 Guide for Good Laboratory Practices in Laboratories Engaged in Sampling and Analysis of Water²

D 4840 Guide for Sample Chain-of-Custody Procedures²

E 645 Test Method for Efficacy of Microbicides Used in Cooling Systems⁵

E 1427 Guide for Selecting Test Methods to Determine the Effectiveness of Antimicrobial Agents and Other Chemicals for the Prevention, Inactivation, and Removal of Biofilm⁵

2.2 APHA Documents:

The Public Health Law Manual, Second Edition⁶

Standard Methods for the Examination of Water and Wastewater, Seventeenth Edition⁶

2.3 ASHRAE Documents:

Cooling Towers. Handbook—Heating, Ventilating, and Air-Conditioning Systems and Equipment⁷

Codes and Standards. Handbook—Heating, Ventilating, and Air-Conditioning Systems and Equipment⁷

Water Treatment. Handbook—Heating, Ventilating, and Air-Conditioning Systems and Equipment⁷

2.4 ASM Documents:

Manual of Clinical Microbiology, Fifth Edition⁸

2.5 CDC Documents:

Guideline for Prevention of Nosocomial Pneumonia⁹

Hospital-Laboratory Diagnosis of Legionella Infections⁹

Procedures for the Recovery of Legionella from the Environment⁹

3. Terminology

3.1 Definitions from Compilation of ASTM Standard Definitions.

3.1.1 *air conditioning, n*—the simultaneous control of all,

⁵ Annual Book of ASTM Standards, Vol 11.05.

⁶ Available from the American Public Health Association, 1015 18th St. N.W., Washington, DC 20036, USA, 1990, 1989.

⁷ Available from the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 1791 Tullie Circle, NE, Atlanta, GA 30329, USA.

⁸ Rodgers, F. G., and Pasculle, W., "Legionella," in *Manual of Clinical Microbiology*, Balows, A., Ed., American Society for Microbiology, Washington, DC 20005, USA, 1991, pp. 442-453.

⁹ Available from the U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, Atlanta, GA 30333, USA, 1987, 1992, 1994.

¹ This guide is under the jurisdiction of ASTM Committee D22 on Sampling and Analysis of Atmospheres and is the direct responsibility of Subcommittee D22.05 on Indoor Air.

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² Annual Book of ASTM Standards, Vol 11.01.

³ Annual Book of ASTM Standards, Vol 11.02.

⁴ Annual Book of ASTM Standards, Vol 11.03.