



## Lessons Learned from Legionnaires' Disease Litigation

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# The Standard of Care Defense in Emerging Toxic Tort Claims

A new complaint lands on your desk alleging wrongful death or serious permanent injury as a result of a plaintiff's exposure to a recently discovered pathogen. Along with the complaint is a letter from the plaintiff's lawyer

asserting that the risks and hazards of the substance are well-known and that the illness or injury was easy to prevent with simple, straightforward, and inexpensive measures. The plaintiff's lawyer immediately demands that your client permit a site inspection and a corporate designee deposition to determine what, if anything, was done to protect the plaintiff from harm, and what measures, if any, were taken to detect and prevent the dispersion of the pathogen at the defendant's premises. A cursory review of the literature reveals dozens, if not hundreds, of journal articles, industry publications, agency position papers, and standards of practice that have been published documenting the health risks associated with the pathogen and describing seemingly simple and straightforward measures to detect and control it. You then learn that public health authorities have confirmed the plaintiff's diagnosis with a disease known to be caused by exposure to the pathogen, as well as the presence of the pathogen at your client's premises.

Rather than accepting the plaintiff's lawyer's worldview that every risk is predictable and controllable, every injury or death is preventable, and serious bodily injury or death was due to negligence, defense counsel can regain critical leverage with a carefully planned and executed defense focused on the fundamental threshold issue of the existence and breach of a standard of care. Executed properly, this defense can shift the burden of proof back where it truly belongs, restoring at least some equilibrium to a situation that at first glance appears to be hopelessly one-sided.

One rapidly emerging source of toxic tort litigation crying out for this approach is exposure to *Legionella*, the bacteria that causes the very serious infection known as Legionnaires' disease. Understanding this pathogen, its pathways to exposure, the medical and scientific literature about it, and industry standards and practices related to it is crucial to the formulation of a sustainable defense, including challenging the existence and breach of a standard of



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care. Lessons learned in defending Legionnaires' disease litigation do transfer and may prove valuable in defending other emerging risks through aggressive challenges to the purported standards of care advanced by plaintiffs.

### What Is Legionnaires' Disease?

Legionnaires' disease is a serious, potentially lethal, and increasingly common form of bacterial pneumonia that is caused by exposure to a ubiquitous waterborne bacterium of the genus *Legionellae*, which was first discovered in 1976, following an outbreak of pneumonia at the Bellevue Stratford Hotel in Philadelphia during an American Legion convention celebrating the United States' Bicentennial. This outbreak involved 221 cases of pneumonia and the death of 34 convention attendees, or "Legionnaires." A public health investigation resulted in identifying the causative pathogen, a new bacterium that was given the name "Legionella," in recognition of the convention attendees. See Department of Veterans Affairs, Office of the Inspector General, Office of Healthcare Inspections, Report No. 13-00994-180, Apr. 23, 2013.

The United States Centers for Disease Control and Prevention (CDC) estimate that between 8,000 and 18,000 people are hospitalized with Legionnaires' disease each year in the United States. Ctrs. for Disease Control, *Legionella* (Feb. 5, 2013), disease. <http://www.cdc.gov/legionella/about/index.html> (last visited Feb. 29, 2014). Underdiagnosis and the resulting underreporting make estimating the incidence of the disease difficult. Nonetheless, some have estimated that as many as 100,000 cases occur annually in the United States. See ASHRAE Position Document on Legionellosis, at 6 (ASHRAE, Atlanta, Ga., June 25, 1998).

*Legionellae* are invisible, odorless, microscopic waterborne bacteria that occur naturally in many different water sources. There are more than 50 known species of *Legionella*. One strain, *Legionella pneumophila* serogroup 1, is most commonly associated with human disease. It has been estimated that more than 70 percent of all *Legionella* infections in humans have been caused by *Legionella pneumophila* serogroup 1. See VA Report at 2.

Although first identified as the cause of human disease in 1976, subsequent inves-

tigation established that *Legionella* is, in fact, a very common bacterium, and so much so that it is often described in the scientific literature as "ubiquitous" in both natural and man-made aquatic reservoirs. *Legionellae* have been detected in lakes, streams, ponds, and reservoirs, as well as cooling towers, holding tanks, potable water systems, decorative water fountains, indoor pools and spas, whirlpools and hot tubs, misters, and humidifiers.

The levels of *Legionellae* typically found in natural and man-made water systems are generally not sufficient to make even susceptible persons ill. However, certain conditions, including stagnation and water temperatures in the range of 68 to 126 degree Fahrenheit, allow the background levels of the bacteria in water to amplify rapidly. When amplification occurs within an aquatic reservoir, the bacteria can be distributed throughout the system and aerosolized at any distribution point that produces an aerosolized mist or spray.

The 1976 outbreak was eventually traced to a cooling tower in the air-conditioning system. Subsequent outbreaks have been traced to potable water systems in buildings, hot water heaters, indoor spas and pools, produce misters, humidifiers, medical respiratory devices, and ventilation and cooling systems. Decorative water fountains, including water wall-type fountains, were implicated in two recent outbreaks.

The mere presence of *Legionella* in water does not necessarily correlate with a risk of exposure or disease contraction. Physical contact with, or even consumption of, water that contains this bacteria does not put a person at risk of infection. Rather, a virulent form of the bacteria must exist and survive in an aquatic reservoir in the environment and then amplify. The affected water then must become aerosolized into fine droplets, mist, or spray. Only then is a person who inhales sufficient amounts of aerosolized water containing virulent strains of *Legionellae* at risk of infection. H.A. Burge, ed., *Bioaerosols*, at 65 (CRC Press, 1995).

The dose necessary to cause infection has not been identified. There is no concentration or amount of *Legionella* that is definitively known to affect human health. The risk of infection depends on factors such as virulence and host susceptibility. The risk of infection is even greater if an

exposed individual has preexisting medical conditions that compromise immunity.

Even if exposure occurs, not every person who inhales aerosolized water containing a virulent form of *Legionella* will contract Legionnaires' disease. The risk of disease transmission is relatively remote. According to the CDC, approximately four percent of individuals who are exposed to aerosolized, bacteria-laden water droplets will contract Legionnaires' disease. Ctrs. for Disease Control and Prevention, *Legionella*, *supra*.

### What Is the Legal Exposure?

The number of confirmed diagnoses of Legionnaires' disease reported to public health authorities through a federally mandated surveillance system has increased dramatically in the last decade. According to the CDC, the number of reported cases has tripled in the past decade. Ctrs. for Disease Control and Prevention, *Legionellosis—United States, 2000–2009, Morbidity and Mortality Weekly Report*, 60(32), at 1083–86 (Aug. 19, 2011). With the increasing number of reported diagnoses and the serious, and often fatal, nature of Legionnaires' disease, as well as the fact that a single outbreak can affect dozens, or even hundreds, of people, plaintiffs' lawyers have turned their attention to this emerging risk. A "Google" search for "Legionnaires' disease lawyer" returns more than 10,000 results. Online news articles on outbreak investigations are often cluttered with pop-up advertisements promoting the services of personal injury lawyers.

Those involved with the ownership, operation, management, and maintenance of hotels, hospitals, senior housing facilities, and condominiums have increasingly been targeted in such lawsuits. Persons or entities responsible for the development, design, engineering, construction, manufacture, installation, maintenance, and repair of the structures or building systems identified as the source of an outbreak also have potential legal liability.

The legal exposure associated with Legionnaires' disease can be substantial. The CDC reports a death rate of 20 to 40 percent. Many of those infected who do survive still spend weeks, if not months, in the hospital and are often left with severe permanent impairment and six-figure medical bills. In addition to the contraction of pneumonia, claimants often allege



a wide variety of injuries and ailments, including coma, stroke, sepsis, acute renal failure, heart failure, brain damage, and neurological dysfunction such as tremors or paralysis, dysphagia, and dysphonia. Reported settlements and jury awards range from \$255,000 to \$5.2 million.

These are not strict liability claims. Plaintiffs typically allege a negligence claim un-

opers, general contractors, architects and engineers, plumbers, and even the manufacturers of water heaters.

When a plaintiff has been involved in a public health investigation, his or her diagnosis may have been screened and validated, the presence of the bacteria at the defendant's premises at or near the time of the alleged exposure may have been confirmed with sampling and testing, and an epidemiological link between the plaintiff's onset of disease and the defendant's premises may have been established.

Facing such allegations, there may be a tendency to concede that the duty of reasonable care necessarily means that no business invitees will ever be exposed to a pathogen while on the premises. As defense counsel, we must always remember the jury instructions that we often request: the mere happening of an accident or event resulting in an injury or illness is not negligence or even proof of negligence, and premises owners are not the insurers or guarantors of the safety of business invitees. Even when Legionnaires' disease is medically diagnosed by a valid and generally accepted method in a case, the pathogen is found on the premises, and the latency for onset of the illness is appropriate, this does not mean that the defendant was negligent. The available defenses may be narrowed by these facts and circumstances, but liability still is not a foregone conclusion. These circumstances simply force a shift to an often overlooked defense: the existence and breach of an applicable standard of care.

### Standards of Care

A viable claim for negligence always requires proof that a defendant was required to conform his or her conduct to a specific standard of care and failed to do so. In a negligence action, a plaintiff always bears the burden of presenting evidence that "establishes the applicable standard of care, demonstrates that this standard has been violated, and develops a causal relationship between the violation and the harm complained of." *Morrison v. MacNamara*, 407 A.2d 555, 560-61 (D.C. 1979) (citations omitted).

A standard of care is a construct in law that represents the usual and customary standard of practice that a reasonable and prudent person follows to protect others

against unreasonable risks. *Id. See also U.S. v. Stevens*, 994 So.2d 1062, 1066 (2008). It describes the minimum course of conduct that must be implemented to discharge the duty of reasonable care. When a duty of care exists, a standard of care is the benchmark against which a defendant's conduct will be measured. The finder of fact decides if a standard of care was met, but a court must first decide "whether a duty exists and the standard it imposes," so that the jury can be instructed appropriately. *Dobbs' Law of Torts* §125 (2d ed.).

The existence of a duty of care and the specific conduct that it requires—the standard of care—will vary depending on the nature of the risk as well as the status of the parties and their relationship to each other and to the premises involved. For instance, owners and operators of hotels may have different duties than owners and operators of office buildings or apartment complexes. The duty owed by an architect will differ from that owed by a general contractor, plumbing engineer, or plumbing contractor. The most common standard of care "is the duty to exercise the care that would be exercised by a reasonable and prudent person under the same or similar circumstances to avoid or minimize the risk of harm to others." *Dobbs' Law of Torts* §127 (2d ed.).

Determining the existence and scope of a duty of care involves considering a number of factors. The analytical framework varies in each jurisdiction but generally includes foreseeability, fairness, and policy. Foreseeability of harm is a significant consideration "[b]ecause no one tries to avoid risks that cannot be identified or harms that cannot be foreseen as a possibility." *Dobbs' Law of Torts* §127 (2d ed.). A typical formulation of the rule is that "where a person's conduct is such that it creates a 'foreseeable zone of risk' posing a general threat of harm to others, a legal duty will ordinarily be recognized to ensure that the underlying threatening conduct is carried out reasonably." *Stevens*, 994 So.2d at 1067. The magnitude of the risk is another consideration. Even when a risk of harm is a foreseeable possibility, the reasonable person "uses care only to avoid inflicting risks that are sufficiently great to require precaution." *Dobbs' Law of Torts* §127 (2d ed.). *See, e.g., Stevens*, 994 So.2d at 1067 (holding that a laboratory that manufactures, grows,

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der a premises liability theory, asserting that a defendant "owed a duty to inspect, maintain, repair, operate and test the water system in the premises, including the faucets, showers, pool and hot tub or spa, in a reasonable and prudent manner and with due regard for the health and safety of invitees," or more generally, that a defendant "owed a duty to exercise reasonable care in the maintenance of the premises and operation of its systems in a reasonably safe manner so as to not subject invitees to an unreasonable risk." Common theories of negligence include failure to maintain water distribution systems properly to prevent the growth of *Legionella*; failure to set and maintain hot water storage temperatures in a range sufficient to eliminate or control the growth of the bacteria; failure to ensure proper chlorination of a water supply; failure to periodically flush water systems to eliminate sediment and other contaminants; and failure to maintain proper water flow throughout a potable water system. Cases have been expanded to include devel-

tests, or handles ultrahazardous materials such as anthrax owes a duty of reasonable care to members of the general public to avoid an unauthorized interception and dissemination of the material, even though the laboratory had no relationship to either the individual who stole the pathogen from the laboratory or the individual who died as a result of exposure to it).

A standard of care may be derived from statutes, regulations, or case law. *See, e.g., Stevens*, 994 So.2d at 1066. With the proper foundation, industry guidelines and standards of practice may be admissible as evidence of a standard of care if they represent the judgment of the relevant community or profession about what conduct is reasonable in the particular circumstances of a case and what conduct is not. *Hansen v. Abrasive Engineering and Manufacturing, Inc.*, 856 P.2d 625, 317 Or. 378 (1993) (“advisory safety standards that are adopted by nongovernmental entities such as ANSI may represent a consensus regarding what a reasonable person in a particular industry would do.”). *See also Sawyer v. Dreis & Krump Mfg. Co.*, 493 N.E. 2d 920 (1986) (holding that industry publications concerning safety requirements may be admissible if the jury first finds that the standards represent the general custom and usage in the industry); *Lever Bros. Co. v. Baltimore & O.R. Co.*, 164 F.2d 738, 740 (1947) (testimony of tradesmen regarding customary practice admissible to prove standard of care); *Butler v. O/Y Finnlines, Ltd.*, 537 F.2d 1205, 1207–08 (4th Cir. 1976) (customary practice admissible to prove proper standard of care).

Similarly, OSHA standards may be admissible to prove the standard of care in a negligence action even when there is no employer-employee relationship between the parties. *See, e.g., Wendland v. Adobe Air, Inc.*, 221 P.3d 390, 571 Ariz. 199 (2009). *See also* Restatement (Second) of Torts §288B cmt. d (1965) (“the requirements of administrative regulations are not adopted by the court as defining a definite standard of conduct in a negligence action but “are accepted as affording relevant evidence” of the standard.”). In *Wendland*, the court followed what it concluded was the majority rule and held that

an OSHA standard may be considered as some evidence of the standard of care [when offered through expert testi-

mony] even when OSHA requirements are not binding on the defendant, so long as there is sufficient foundation (1) establishing that the standard at issue is directly related to the exercise of reasonable care and (2) a reasonable nexus exists between the proffered standard and the circumstances of the injury.

*Wendland*, 221 P.3d at 395–96, 223 Ariz. at 204–05.

Currently, there are no federal, state or local statutes, codes, or regulations that establish a duty of care specific to the control of Legionellae for any structure or industry outside of healthcare. This article does not address the standards of care relating to Legionella prevention and control that may apply in health-care settings. Specific standards and guidelines exist in that context.

Nevertheless, the existence of a standard of care may appear to be a foregone conclusion in Legionnaires’ disease litigation, considering the volume of guidelines, position statements, journal articles, and peer-reviewed literature that have been published by the U.S. federal, state and local governments and industry and professional societies that provide recommendations relating to Legionella control in health-care and other settings. Government agencies such as the U.S. Environmental Protection Agency (EPA), OSHA, the CDC, the Department of Veteran Affairs, and numerous industry groups, such as the Association of Water Technologies (AWT) and American Society of Plumbing Engineers (ASPE), and the Joint Commission on Accreditation of Health Care Organizations (JCAHCO) have published guidelines, position statements, and articles relating to Legionellae control and prevention. Plaintiffs’ lawyers and their experts frequently cite these publications as standards of care or sources of the standard of care. Examples include the following:

- Chapter VII of the OSHA Technical Manual, which provides information on disease recognition, investigation procedures to proactively identify probable water-based amplification sources and implementation of control strategies.
- Drinking Water Criteria Document for Legionella, published by the EPA Office of Drinking Water.
- Legionella: Human Health Criteria Document, published for the EPA Office of

Ground Water and Drinking Water by the Office of Science and Technology.

- The EPA National Primary Drinking Water Regulations, which establish maximum contaminant level goals for *Legionella* and other waterborne pathogens.
- *Legionella: An Update and Statement*, by The Association of Water Technologies.
- ASHRAE Guideline 12, “Minimiz-

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ing the Risk of Legionellosis Associated with Building Water Systems,” published by the American Society of Heating, Refrigerating, and Air Conditioning Engineers.

- *Standard Guide for Inspecting Water Systems for Legionellae and Investigating Possible Outbreaks of Legionellosis*, published by the American Society for Testing and Materials (ASTM).
- *Guidelines for Drinking Water Quality*, published by the World Health Organization.

The handful of courts around the nation that have addressed the issue have concluded that without evidence of a statute, regulation, or industry standard specifically requiring building owners and managers to take proactive measures to detect and to prevent the proliferation of Legionella bacteria in building water systems, owners are entitled to a summary judgment for lack of evidence establishing the standard of care. *See Vellucci v. Allstate Ins. Co.*, 431 N.J. Super. 39, 66 A. 3d 215 (2013); *Flaherty v. Legum & Norman Realty, Inc.*, Civil Action No. 1:05-1492, 2007 WL 4694346 (E. D. Va. Jan. 4, 2007), *aff’d* 281 F. App’x 232, 2008 WL 2385491 (4th Cir. 2008).



In *Vellucci v. Allstate Ins. Co.*, the plaintiff's decedent allegedly contracted Legionnaires' disease from using a sink in his office building. Water sampling and testing conducted shortly after his death confirmed amplified levels of a virulent strain of *Legionella* within the building's water supply. The plaintiff sued the entity that owned, designed, built, and managed the

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building. To prove the standard of care, the plaintiff submitted reports and studies concerning the conditions required for the proliferation and transmission of *Legionella* and "countermeasures available to eradicate or at least minimize the risk of exposure, including publications of the CDC, the AWT, ASTM, and ASHRAE, as well as expert opinion testimony that the defendant knew, or should have known, of the risk of contamination, based on news reports of prior outbreaks and government and industry literature setting forth recommendations concerning *Legionella* control. *Vellucci*, 431 N.J. Super. at 46–52, 66 A.3d at 219–25. Nonetheless, the trial court granted the defendant building owner's motion for summary judgment because no statute, regulation, or industry standard imposed a duty on the building owner to take protective measures to ensure that the building's water supply was not contaminated with *Legionella*. *Id.* at 54, 66 A.3d at 225. The court was persuaded that the defendant had taken appropriate measures to ensure that the premises was reasonably safe and had no heightened duty to undertake specific, targeted efforts to detect or control *Legionella* because legi-

onellosis "is a rare and relatively unforeseeable occurrence." *Id.* at 44, 54, 66 A.3d at 219, 225. Central to the decision was the court's conclusion that the building owner had no actual or constructive knowledge that its building was contaminated, and as such, the court found lacking the foreseeability necessary to establish a duty. *Id.* at 53, 66 A.3d at 224. The New Jersey Superior Appellate Court affirmed this decision, noting that the plaintiff "did not present any rational basis to impose a duty on [the defendant] to foresee the advent of the *Legionella* bacteria in the building's water system." *Id.* at 56, 66 A.3d at 226.

In *Flaherty v. Legum & Norman Realty, Inc.*, the plaintiff's decedent allegedly contracted Legionnaires' disease as a result of exposure to *Legionella* in a condominium building's potable water system. Testing conducted weeks after the decedent's alleged exposure established that *Legionella* was indeed present within the condominium building's potable water system. The plaintiff sued the condominium's property management company, which was responsible for the operation and maintenance of the building's water system. *Flaherty*, 2007 WL 4694346, at \*1. The trial court granted the defendant's motion to preclude the plaintiff's experts from offering standard of care opinions because the experts, both microbiologists, were not qualified professional property managers who could establish the standard of care that a property management company must exercise in maintaining a water system to prevent the amplification, dissemination, and transmission of *Legionella*. *Id.* at \*6–8. The court also concluded that the factual basis for the experts' standard of care opinions was lacking, primarily because there were no state or local regulations that mandated a particular standard and the referenced source materials were merely advisory and in some instances irrelevant. *Id.* at \*9–12. The materials presented to the court, including ASHRAE Guideline 12, "[did] not establish an adequate standard with which Defendant's actions can be compared because they are not specific and do not delineate the circumstances in which such practices would be appropriate." *Id.* at \*10–11, 15. After finding that expert testimony was essential to prove duty and breach and that the

plaintiff's experts were lacking the qualifications and factual basis to do so, the trial court granted the defendant's companion motion for summary judgment. *Id.* at \*13–14. The Fourth Circuit affirmed. *Flaherty v. Legum and Norman Realty, Inc.*, 281 F. App'x 232, 234–35 (4th Cir. 2008).

In both *Vellucci* and *Flaherty*, the courts focused their analyses on two issues: (1) the breadth and the vagueness of the voluntary guidelines and standards of practice, and (2) that they do not mandate or prohibit any specific conduct.

The breadth and the vagueness of these materials makes whether they truly represent a consensus of professionals in the relevant field questionable. A true consensus standard means that everybody in the industry agrees with them and follows them. Needless to say, evidence that other premises owners and managers have implemented any of the recommended practices is difficult to come by. Careful scrutiny of the guidelines and the reference materials that plaintiffs present as evidence of the standard of care reveals that there is, in fact, little agreement among scientists and practitioners who focus on the issue of *Legionella* prevention and control about what constitutes a reasonable prevention or control strategy or practice.

For example, there is significant controversy in the scientific community regarding the utility of routine sampling and testing of water as a preventive measure, a recommendation that appears in many of the guidelines. A plaintiff's expert may contend that a defendant should have had a water management plan in place that included periodic sampling and testing for *Legionella*, citing CDC and ASHRAE publications for support. However, neither the CDC nor ASHRAE recommend routine environmental testing without a confirmed case of Legionnaires' disease associated with the premises. This is because routine culture samples from building water systems may not be "predictive of the risk of transmission" because the presence of the organism cannot be directly equated to the risk of infection: interpreting results is confounded by use of different laboratory methods; a number of factors other than concentration of organisms influences illness risk; and test results only represent the counts at the time that a sample was

collected. See ASHRAE Guideline 12 at 13. Similarly, plaintiffs' lawyers and experts will likely contend that a defendant should have maintained hot water storage temperatures at or above 140 degrees Fahrenheit as a prevention measure. See, e.g., *Flaherty*, 2007 WL at 4694346, at \*11. However, most plumbing codes nationwide mandate that hot water temperatures cannot exceed 120 degrees Fahrenheit at distal outlets.

This lack of consensus may be driven by the fact that Legionella is a relatively new risk, having been first discovered and identified as a cause of human disease in 1976. So the related state of the art is still evolving. For example, one article published in 2012 in the American Journal of Infection Control called into question the long-standing and widely accepted belief that there is a correlation between the percentage of environmental samples testing positive for Legionella in a given screening of a domestic water system and the incidence of Legionnaires' disease. See Joseph G. Allen DSc, MPH, et al., *Assessing the Risk of Health Care-acquired Legionnaires' Disease from Environmental Sampling: The Limits of Using a Strict Percent Positivity Approach*, 40 American Journal of Infection Control 917-21 (2012). Consensus may be particularly difficult to achieve because Legionella control and prevention is a multidisciplinary issue involving plumbing design and engineering, mechanical engineering, microbiology, industrial hygiene, risk assessment, exposure science, water chemistry, water treatment, and potentially other sciences.

The second analytical thread running through these cases is that the proffered standards of care are voluntary and advisory in nature and do not specifically impose requirements on building owners, property managers, or facility maintenance professionals. None of the commonly referenced guidelines have been adopted by any county, state, or national regulatory body, or incorporated into any local, state, or national ordinance, code, statute, or regulation.

Additionally, the fact that there are dozens of different guidelines, position statements, and recommended practices published by a variety of agencies, associations, and interest groups from a number of different scientific disciplines begs the question of whether any of them truly represent a consensus among those responsible

for the ownership, operation and maintenance of potable water systems. See, e.g., *Flaherty*, 2007 WL 4694346, at \*10 ("publications that do not focus on the practice of professional management companies of which Defendant was not aware are not a reliable basis upon which Dr. Clancy can evaluate Defendant's practices.").

These opinions may seem counterintuitive considering the volume of published material relating to the control of Legionella and the expert testimony in each case demonstrating that the risks associated with Legionella are well-known and that preventive measures are available. However, when we take a closer look at the source materials and dissect the expert opinions, it becomes clear that what is "reasonable" has not been established. There is no consensus on what to do to prevent the entry of this bacteria into potable water systems or to control its growth once it has entered the system. It is also not so clear that the risks associated with Legionella are reasonably foreseeable so that preventive measures should have to be undertaken as a matter of course, particularly when its existence in a particular water source has not been established and there have been no reported cases of disease associated with the premises. This is because of the following: (1) Legionella is an odorless, invisible, microscopic, naturally occurring, and "ubiquitous" pathogen; (2) its presence does not necessarily correlate with a risk of transmission of the disease; (3) even with good management practices, Legionella can still occupy a potable water system at undetectable levels and then amplify rapidly; (4) aerosolization of a virulent form of the bacteria is required to create a risk of disease; (5) it has a very low attack rate; and (6) only certain populations are at risk of contracting the disease. As former CDC scientist Dr. James Barbaree has acknowledged, it is difficult "to know exactly where and when a bloom is going to occur," and furthermore, "a case of legionellosis may occur even if every recommendation in the book is followed." *Chokan v. Ford Motor Co.*, 2006 WL 3055412, at \*7 (2006). With these considerations in mind, the risk of amplification of Legionella in a potable water system and the transmission of Legionnaires' disease appears to be isolated and remote.

This uncertainty regarding the existence and scope of a standard of care relating to Legionella control in building water systems may soon change due to the efforts of ASHRAE. ASHRAE is poised to approve a new document, Standard 188P, "Prevention of Legionellosis Associated With Building Water Systems." Standard 188P represents ASHRAE's efforts to convert its existing Guideline 12 into a voluntary consensus standard. The organization is developing Standard 188P because, as ASHRAE's Standards Committee chairman William McCoy explained, there is a "lack of a management system that can be applied in a practical and defensible way." *Engineers' Building Code Standards Target Legionella Bacteria*, The Pittsburgh Tribune-Review, Mar. 9, 2013.

### What the Future Holds

Genetically modified foods, hydrofracking, nanomaterials, and newly discovered pathogens are among the emerging toxic tort risks making headlines. As these new technologies and products are developed, and new pathogens are discovered, government and industry working groups are forming to research health risks, set human exposure limits, and develop policies, protocols, and standards of practice relating to the detection and prevention of human exposure. When the inevitable personal injury and wrongful death claims arise, the plaintiffs' lawyers will resort to the familiar strategy of portraying every risk as controllable, every exposure as unsafe, and every injury as preventable. As we defense attorneys prepare to respond effectively to this next wave of toxic tort litigation, we should not lose sight of the fundamentals. Lessons learned from Legionnaires' disease litigation illustrates the point that the purported standard of care may, at first glance, appear to be a foregone conclusion. However, an in-depth understanding of the pathogen at issue and the scientific literature, guidelines, recommended standards of practice, and other potential sources of a standard of care will often reveal that in fact, there is no consensus in the relevant community about what "reasonableness" requires and that the risk assessment is far more complex than as portrayed by our opponents. 