

DEVELOPMENTS IN TOXIC TORT LIABILITY FOR THE QUALITY OF GROUNDWATER SERVED

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FOREWORD

In 1974, after the newly formed United States Environmental Protection Agency (“EPA”) warned that “our old assumptions about the quality of our drinking water may no longer be valid,” President Ford signed the Safe Drinking Water Act (“SDWA”), the federal regulatory scheme governing municipal water providers.¹ At the time, headlines focused on potential cancer-causing chemicals found in New Orleans and Pittsburgh drinking water, high levels of lead in Boston tap water, and problems in smaller rural communities “where treatment works are outdated or modern techniques are not available.”² The new SDWA promised a comprehensive federal regulatory scheme that included civil and criminal penalties.³

Government enforcement aside, have consumers ever had a private cause of action against municipal water providers? What happened in the early 1900s, when typhoid outbreaks killed hundreds? Were water suppliers immune to liability for disease outbreaks caused by tap water that was unsafe to drink? Even today, what causes of action allow recovery in the absence of state or federal enforcement of the SDWA?

Since at least the 1800s, when typhoid outbreaks were relatively common, municipal water providers have been susceptible to civil actions brought by consumers. With the rapid growth of urban population in the early 1900s, claims

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1. Safe Water Drinking Act, Pub. L. No. 93-523, 88 Stat. 1660 (1974) (codified as amended at 42 U.S.C. § 300f to 300j-26 (2006)); James L. Agee, *Protecting America’s Drinking Water: Our Responsibilities Under the Safe Drinking Water Act*, EPA J., Mar. 1975, at 2, 2, available at <http://www.epa.gov/history/topics/sdwa/07.htm>.

2. *Id.*

3. Safe Water Drinking Act, Pub. L. No. 93-523, §§ 1401–1450, 88 Stat. at 1660–63.

against water system operators became more frequent. Disease outbreaks were traced to operators who obtained water from contaminated surface waters.⁴ While municipal immunity against such actions was initially available, that protection was short-lived. As state and federal tort claims statutes were adopted, courts allowed lawsuits against municipal water companies to go forward, holding that municipal water service is more akin to a proprietary service not protected by governmental immunity.⁵

Today, the permutations in common law “toxic tort” legal theories brought against water purveyors are increasing, perhaps in response to consumer expectations as the list of contaminants found in public water supply sources grows. Civil actions typically include a number of claims, alleging negligence, nuisance, trespass, product liability, and even strict liability based on the theory that water providers are engaged in an abnormally dangerous activity.⁶ With the discovery of a growing number of contaminants, some might argue that no source of drinking water is safe without treatment, even groundwater pumped from aquifers deep below the surface.⁷ Advances in the ability to diagnose medical symptoms and track “contaminants of concern” to a specific drinking water supply have further allowed claimants to overcome the difficult burden of establishing causation.⁸ In combination, toxic tort suits against municipal water providers threaten to become more pervasive, especially in the absence of any safe harbor under the SDWA or other statutory immunity.

This Article provides a road map of how the common law theories have developed over the past hundred years and how they apply to municipal water providers today. Beginning with the typhoid litigation at the beginning of the twentieth century, this Article catalogues the major developments in toxic tort liability facing municipal water providers, along with the ever-changing standard of care expected of water system operators. It ends with a case-study discussion of recent toxic tort litigation brought for deaths caused by the amoeba *Naegleria fowleri*, which, though incredibly rare, was the basis for several multi-million dollar wrongful death claims in Arizona (despite Arizona’s statute providing a safe harbor under SDWA compliance). Growing public concern over the pollution of drinking water,⁹ coupled with a near failing grade given to the nation’s drinking

4. See, e.g., *Jones v. Mount Holly Water Co.*, 93 A. 860 (N.J. 1915); *Green v. Ashland Water Co.*, 77 N.W. 722 (Wis. 1898). These cases are discussed in further detail below.

5. See *infra* Part I, Section IV.

6. See *infra* Part II, discussing *Luna v. Rose Valley Water Co.*, No. CV2002-070537 (Maricopa County Super. Ct. filed Dec. 5, 2002).

7. *Id.*

8. *Id.*; see also, e.g., *Adel v. Greensprings of Vt., Inc.*, 363 F. Supp. 2d 692, 694–95 (D. Vt. 2005).

9. See Joseph Carroll, *Water Pollution Tops Americans’ Environmental Concerns*, GALLUP POLL ON DEMAND, Apr. 21, 2006, <http://www.galluppoll.com/content/?ci=22492&pg=1>.

water infrastructure,¹⁰ means that toxic tort liability poses a significant concern that few municipalities are prepared to address.¹¹

PART I

I. A (VERY) SHORT HISTORY OF WATER SYSTEMS AND WATER TREATMENT

While there are references to water purification in ancient Sanskrit dating back four thousand years, most give Scotland credit for the first municipal water filtration plant, built in Paisley in 1804.¹² Perhaps explaining the slow development of filtration and other measures to address microbial contamination is the fact that scientific documentation of waterborne contaminants did not occur until the nineteenth century. Not until 1855 did epidemiologist John Snow establish cholera as a waterborne disease, and Pasteur's developments in bacteriology and the germ theory of disease did not come about until the late 1880s.¹³ Once the threat was recognized, however, measures to address contaminants in drinking water developed rather quickly. The City of London, for example, passed a law requiring all waters be filtered as early as the 1850s.¹⁴

In the United States, the first municipal water delivery system was constructed in 1799, delivering water through wooden pipes from the Schuylkill River to the City of Philadelphia.¹⁵ By 1860, the number of water systems in the United States grew to 400 and, not surprisingly, outbreaks of waterborne disease accompanied the new delivery systems.¹⁶ By the mid-1870s, sand filters were introduced in Massachusetts, followed by coagulation to reduce turbidity and bacteria, first used in Louisville, Kentucky in the mid-1890s.¹⁷ In 1908, chlorination was introduced, the method still used today to control bacteria which most waterborne pathogens feed upon.¹⁸

II. FEDERAL REGULATION

The first federal regulations, established by the Treasury Department, adopted maximum coliform levels in drinking water in 1914, but only applied to interstate systems and carriers. Municipal water systems were not subject to

10. See AM. SOC'Y OF CIVIL ENG'RS, REPORT CARD FOR AMERICA'S INFRASTRUCTURE (2005), available at <http://www.asce.org/reportcard/2005/index2005.cfm> (giving a grade of "D-" to the nation's drinking water infrastructure).

11. To this day, some major municipal utilities in Arizona, such as Tucson Water, remain self-insured, without any outside insurance coverage if a disease outbreak were to occur.

12. 1 M.N. BAKER, THE QUEST FOR PURE WATER (2d ed. 1981).

13. Joseph A. Cotruvo & Craig D. Vogt, *Rationale for Water Quality Standards and Goals*, in AM. WATER WORKS ASS'N, WATER QUALITY AND TREATMENT 1, 3 (4th ed. 1990).

14. J.A. Borchardt & Graham Walton, *Water Quality*, in AM. WATER WORKS ASS'N, WATER QUALITY AND TREATMENT 1, 4 (3d ed. 1971).

15. Cotruvo & Vogt, *supra* note 13, at 3.

16. *Id.*

17. *Id.*

18. *Id.*

federal control.¹⁹ Federal drinking water standards later became the purview of the United States Public Health Service, which adopted a growing list of contaminants in 1942 and again in 1962, by which time an estimated 19,000 municipal water systems existed.²⁰ As early as 1942, federal regulations recognized hexavalent chromium as a concern, followed by radioactivity in 1962.²¹ The growing concern with organic chemicals was a major justification for the Safe Drinking Water Act, passed in 1974.²² Under the SDWA, the EPA was required to establish Maximum Contaminant Levels (“MCLs”) and update them as new information became available.²³ As the term suggests, MCLs limit the allowable concentration of certain contaminants typically found in public drinking water supplies.

The EPA has established MCLs for more than sixty substances that are listed in the SWDA’s implementing regulations.²⁴ With respect to adding new or emerging contaminants to the list, the SDWA requires the EPA to engage in a review process every five years to address contaminants which are known or anticipated to occur in public water systems, but which are not yet regulated. After publishing the Contaminant Candidate List (“CCL”), the SDWA requires the EPA to make determinations about whether to regulate at least five of the contaminants on the list within three-and-a-half years of publishing each new CCL.²⁵

The EPA proposed the first Contaminant Candidate List, also known as “CCL 1,” in 1998.²⁶ The list was derived from a broader list of 262 chemicals and twenty-five microbial contaminants identified by using a screening process developed by the National Drinking Water Advisory Council. The final version of CCL 1 winnowed the list to fifty chemicals and ten microbiological contaminants.²⁷ After studying the occurrence and level of risk over the next few years, the EPA determined on July 18, 2003 that regulation was not appropriate for the nine contaminants singled out for a regulatory determination and removed them from CCL 1.²⁸ It also determined not to add any new MCLs.²⁹

The fifty-one contaminants left on CCL 1 included forty-two chemicals or chemical groups and nine microbiological contaminants.³⁰ The EPA more recently

19. *Id.* at 4.

20. *Id.* at 5.

21. *Id.*

22. Safe Water Drinking Act, Pub. L. No. 93-523, 88 Stat. 1660 (1974) (codified as amended at 42 U.S.C. § 300f to 300j-26 (2006)); Cotruvo & Vogt, *supra* note 13, at 5.

23. Safe Water Drinking Act § 1412, 42 U.S.C. § 300g-1.

24. 40 C.F.R. pt. 141 (2006).

25. Safe Water Drinking Act § 1412(b)(1), 42 U.S.C. § 300g-1(b)(1).

26. Announcement of the Drinking Water Contaminant Candidate List, 63 Fed. Reg. 10,274 (Mar. 2, 1998).

27. *Id.*

28. See Announcement of Regulatory Determinations for Priority Contaminants on the Drinking Water Contaminant Candidate List, 68 Fed. Reg. 42,898 (July 18, 2003). The EPA removed acanthamoeba, aldrin, dieldrin, hexachlorobutadiene, manganese, metribuzin, naphthalene, sodium, and sulfate. *Id.*

29. *Id.*

30. Drinking Water Contaminant Candidate List 2, 69 Fed. Reg. 17,406, 17,406–15 (Apr. 2, 2004).

decided to carry forward these contaminants to the present list, CCL 2, which became final on February 24, 2005.³¹ The present list includes such emerging contaminants as MTBE (the gasoline additive) and perchlorate (from explosives manufacturing and testing) along with *Microsporidia*.³² The EPA published its request for nominations for the next candidate list, CCL 3, on October 16, 2006.³³ The final CCL3 is due in February of 2008.

Though the CCL does not impose any federal requirement on water providers, it may form the basis for an MCL under state law. For example, California has established an MCL of 13 ug/L for MTBE, and a public health goal of 6 ug/L for perchlorate, pending approval of a final perchlorate MCL. Both are listed contaminants on CCL 2.

Regardless of whether the EPA or a state deems an MCL to be necessary, plaintiffs in toxic tort lawsuits may seize on the fact that a contaminant appears on the list as evidence of a foreseeable risk of harm. Alleging negligence, plaintiffs seem ready to move forward once these contaminants appear in the drinking water supply, whether or not the contaminants are regulated by an MCL.

III. EARLY COMMON LAW CLAIMS

SDWA regulations aside, early typhoid cases—based on the common law theory of negligence—serve to demonstrate how consumer expectations have changed over the years. In *Green v. Ashland Water Co.*, for example, the Supreme Court of Wisconsin discussed facts that are somewhat appalling by today's standards, but nevertheless ruled that the municipal water company could not be held liable.³⁴ In *Green*, the wife of the deceased brought a wrongful death suit against the Ashland Water Company after her husband died from typhoid fever in 1894.³⁵ It was undisputed that he contracted the disease from water distributed from Chequamegon Bay, which was contaminated with raw sewer water from the nearby City of Ashland.³⁶ The City's waterworks obtained its water from an intake pipe extending out into the bay.³⁷ When the waterworks were first built, the intake pipe extended far enough beyond the contaminated shoreline, but by 1891, it was generally known that the entire bay was contaminated with "typhoid fever germs" that fed on the raw sewage dumped into the bay from a growing number of effluent sources.³⁸ Green's widow brought suit based on the tort theory of negligence, alleging that the water company failed to properly extend its intake pipe far enough out into the bay when the pollution worsened.³⁹

31. Drinking Water Contaminant Candidate List 2, 70 Fed. Reg. 9071, 9072–74 (Feb. 24, 2005).

32. *Id.*

33. See Request for Nominations of Drinking Water Contaminants for the Contaminant Candidate List, 71 Fed. Reg. 60,704, 60,704–08 (Oct. 16, 2006).

34. 77 N.W. 722 (Wis. 1898).

35. *Id.* at 723.

36. *Id.*

37. *Id.*

38. *Id.*

39. *Id.*

The court addressed whether Green had a negligence claim as well as a claim for breach of an implied warranty, a quasi-contractual theory based on the fact that her husband had *purchased* the water from the defendant water company. After a lengthy discussion of English common law, and after struggling with whether contract or tort theory should apply to the circumstances (a tension that still exists today), the Wisconsin court decided that the applicable rule is *caveat emptor*, or “let the buyer beware.”⁴⁰ It held that there was no implied warranty of fitness and suitability, and that municipalities are not guarantors of the quality of water they deliver.⁴¹ The court reasoned that to find that a municipality gives an implied warranty as to the quality of the water delivered would “discourage a service that has become a necessity in all communities of any considerable size, and which promotes to a high degree the welfare and happiness of individuals in communities great or small.”⁴²

The court did not, however, stop there. Despite the fact that the jury had earlier ruled in Green’s favor on the separate negligence claim, the court struck down the verdict and denied recovery, citing the fact that it was common knowledge among those in the small city that the city’s drinking water was a source of typhoid. “[T]here being no evidence explaining why the deceased did not know” of the threat of typhoid, the court went so far as to hold that the water company was entitled to a presumption that Green *knew* the water was unfit to drink.⁴³ The court thus barred the widow’s claim due to Green’s own contributory negligence, the prevailing rule at the time.⁴⁴ The court found that Green “took upon himself the risk” of contracting typhoid when he drank the water provided by the Ashland Water Company, which was known to have made others sick with typhoid years earlier.⁴⁵

For the next thirty years, the case of *Green v. Ashland Water Co.* was cited with approval on the issue of whether a water provider guarantees the quality of water it supplies. In *Hayes v. Torrington Water Co.*, for example, the court affirmed that a water company is “not a guarantor of the purity of its water or of its freedom from infection.”⁴⁶ Similarly, in the 1920s, in *City of Salem v. Harding*, the Ohio Supreme Court addressed a situation where sewage filtered down through the earth, contaminating the City of Salem’s water line and causing a typhoid outbreak.⁴⁷ Holding that Salem should not be found to be a guarantor of the purity and wholesomeness of the water, the court reasoned “[i]f municipalities of this state, or of any state, were held to respond in damages for all sickness and death caused by water-borne diseases, municipal burdens would be increased to the point where the municipalities would have to go out of existence.”⁴⁸

40. *Id.* at 724–25.

41. *Id.* at 725.

42. *Id.*

43. *Id.* at 729.

44. *Id.*

45. *Id.*

46. 92 A. 406, 407 (Conn. 1914); *accord* *Hamilton v. Madison Water Co.*, 100 A. 659, 663 (Me. 1917).

47. 169 N.E. 457 (Ohio 1929).

48. *Id.* at 459.

But, though the cases that followed *Green* rejected the quasi-contractual theory of recovery, courts were later not so quick to reject a plaintiff's ability to recover in negligence. Consumer expectation for cleaner water, especially after advances in the ability to detect microbial contaminants, was on the rise. In *Jones v. Mount Holly Water Co.*, after noting that there were *bacilli coli* in considerable quantity and a probability of the typhoid germ in the water supply, the New Jersey Supreme Court held that

[a]ctual notice or knowledge of the unwholesomeness of the water of the defendant company was not an essential element to be proven It was sufficient if there was testimony tending to show that the defendant, in the exercise of reasonable care, might have discovered the unwholesomeness and dangerous condition of the water.⁴⁹

Two years later, in *Hamilton v. Madison Water Co.*, the Maine Supreme Court stated, "When a corporation assumes what is practically an exclusive right to provide a community with such a prime necessity of life as water, sound public policy requires that it be held to a high degree of faithfulness in furnishing a supply adequate in quantity and wholesome in quality."⁵⁰ Long before the SDWA required mandatory testing, the court stated, "It is a commonly accepted scientific fact that the water from a stream or river flowing through villages and populated country is viewed with suspicion," and held that the water provider had a duty to take samples and investigate.⁵¹

As a sign of the times, the courts thus acknowledged the impact of growing urban populations on formerly pristine water supplies and required water providers to take precautions by recognizing a common law duty to test the water for contamination.

IV. GOVERNMENTAL IMMUNITY

At common law, there was another obstacle to suing a municipal water provider: The doctrine of governmental immunity. Governmental immunity is distinct from sovereign immunity, which applies to states and state agencies but does not extend to municipalities.⁵²

49. 93 A. 860, 861 (N.J. 1915).

50. 100 A. at 663.

51. *Id.*

52. 1 DAN B. DOBBS, *THE LAW OF TORTS* § 260 (2001). The doctrine of sovereign immunity originated in eighteenth-century England and was first applied in the United States in Massachusetts in 1812. *See Mower v. Inhabitants of Leicester*, 9 Mass. 247 (1812); *see also, e.g., Pike v. Ariz. Dep't of Transp.*, No. 1 CA-CV 96-0443, 1998 WL 30531, at *3 (Ariz. Ct. App. Jan. 29, 1998) ("A right of action against the state was not recognized in the common law when the Arizona Constitution was adopted; the common law doctrine of sovereign immunity served to shield governmental entities from tort liability."). However, sovereign immunity does not apply to municipalities because they were never considered sovereigns. 1 DOBBS, *supra*, § 260 ("[M]unicipalities were not sovereigns and their immunity historically grew out of an entirely different idea.").

Additionally, with respect to a citizen suing his or her own state in federal court, the Eleventh Amendment to the U.S. Constitution, as interpreted by the U.S. Supreme Court in *Hans v. Louisiana*, similarly bars a lawsuit by a citizen against his or her own state in

When applying governmental immunity, courts have recognized that municipal corporations possess a dual capacity, sometimes acting in a governmental capacity, which is protected by governmental immunity, and other times in a private, corporate, or proprietary capacity, which is not protected.⁵³ Most states eventually passed tort-claim statutes that replace general common-law governmental immunity with a list of specific immunities, some of which continue to differentiate on the basis of governmental versus proprietary action.⁵⁴ For example, an Arizona court held that a statutory immunity protected a city council when it made a decision to provide services to its citizens, but it did not protect the council when it provided the same services negligently.⁵⁵ Also, a municipality's determinations related to public health and safety have sometimes been held to involve a fundamental governmental role.⁵⁶ Supplying water for certain public purposes, including, "for emergency use, is a governmental function to which immunity from liability might attach."⁵⁷

Other statutes were crafted specifically to provide a safe harbor for municipal water services, which suggests that legislatures believed that existing immunities were insufficient.⁵⁸ The *City of Salem* court warned that municipal water utilities will "go out of existence" without such safe harbor provisions. While this is perhaps an overstatement, the possibility of significant expense for

federal court. 134 U.S. 1 (1890). Like common-law sovereign immunity, Eleventh Amendment immunity does not extend to suits against counties or other municipalities. *See* *Lincoln County v. Luning*, 133 U.S. 529 (1890).

53. *See, e.g., City of Tucson v. Sims*, 4 P.2d 673, 675 (Ariz. 1931) (holding that a municipal corporation acts in its proprietary capacity when providing water services); *City of Milwaukee v. Raulf*, 159 N.W. 819, 821 (Wis. 1916) (noting the dual capacity of municipal corporations); 62 C.J.S. *Municipal Corporations* § 110 (2007).

54. *See* 1 DOBBS, *supra* note 52, § 269. With respect to state tort claim acts, *see, for example, ARIZ. REV. STAT. ANN. § 12-820.01(A)(2)* (2006), which provides absolute immunity to public entities for the acts and omissions of their employees that constitute "[t]he exercise of an administrative function involving the determination of fundamental governmental policy."

55. *Galati v. Lake Havasu City*, 920 P.2d 11, 14–15 (Ariz. Ct. App. 1996) (distinguishing the fundamental policy decision to provide services from the ministerial action implementing the policy once adopted).

56. *See State v. Bartos*, 423 P.2d 713, 714 (Ariz. 1967) (noting that a municipality acts within its police power when it acts to promote the public health of citizens within the city).

57. 24-113 Personal Injury—Actions, Defenses, Damages (MB) § 2.04, § 8 (2007); *see, e.g., McCombs v. City of McKeesport*, 11 Pa. D. & C.2d 412, 419 (Ct. Com. Pl. 1957) (finding municipality immune from liability for providing household with water when normal supply ran low as providing governmental function for health and safety).

58. *See, for example, Arizona's statute, which reads:*

With regard to actions for personal injury arising out of the use or consumption of water, water shall be deemed reasonably safe and fit for consumption and use if it complies with the more stringent of the primary maximum contaminant levels that are established either pursuant to title 49, chapter 2, article 9, or to the safe drinking water act (P.L. 93-523; 83 stat. 1666; 42 United States Code section 201).

ARIZ. REV. STAT. ANN. § 12-820.08.

treating the growing list of contaminants is a reality. Safe harbor statutes attempt to provide reasonable and predictable limits.⁵⁹

V. THE STANDARD OF CARE

Assuming that a municipal water provider fails to convince the court that it is entitled to immunity, thus allowing a negligence claim to go forward, what factors should a judge or jury consider in determining the standard of care applicable to the water provider? Or what might an expert use to support testimony on whether the municipality acted appropriately under the circumstances?

Both with respect to the infrastructure of the water system and the standard operating procedures used to run it, there are obviously numerous guidance documents—such as the standards and manuals of the American Water Works Association⁶⁰—to use as reference. Realistically, however, no utility can afford to maintain a state-of-the-art water system and operational practices that comply with each and every guidance document ever published, especially with so many standards available. The municipal water provider thus faces a dilemma: Which recommended procedures can it afford and which capital expenditures must it undertake in order to avoid a negligence claim if (and when) things go wrong? And if the water provider falls short of complying with published industry standards, what legal excuses are available for not taking maximum precautions?

A. *The Basic Question a Jury Will Answer*

As a starting point for a real-life analysis of the risk of liability, it is first worth examining jury instructions, especially since they provide the legal rules that will be used if a municipal water provider goes to trial. Such instructions generally reflect a consensus of the black-letter law that has evolved over the years, written in simple terms (or as simple as it ever gets) so that a jury will focus on the key issues to be decided. With respect to the standard of care instruction in California, CACI 401, the jury instruction on negligence, reads as follows:

Negligence is the failure to use reasonable care to prevent harm to oneself or to others. A person is negligent by acting or by failing to act. A person is negligent if he or she does something that a reasonably careful person would not do in the same situation or fails to do something that a reasonably careful person would do in the same situation. You must decide how a reasonably careful person would have acted in [defendant's] situation.⁶¹

In addition to CACI 401, other instructions may apply, depending on the circumstances, such as CACI 413, Custom or Practice:

You may consider customs or practices in the community in deciding whether [defendant] acted reasonably. Customs and

59. See, e.g., ARIZ. REV. STAT. ANN. § 12-820.08.

60. The AWWA was founded in 1881. Its focus is public health related to the public water supply. See American Water Works Association, Volunteer Involvement, <http://www.awwa.org/About/vib/index.cfm> (last visited Apr. 17, 2007).

61. CAL. CIVIL JURY INSTRUCTIONS § 401 (Judicial Council of Cal. 2006) [hereinafter CAL. CIVIL JURY INSTRUCTIONS].

practices do not necessarily determine what a reasonable person would have done in [defendant's] situation. They are only factors for you to consider. Following a custom or practice does not excuse conduct that is unreasonable. You should consider whether the custom or practice itself is reasonable.⁶²

Thus, in the course of a trial involving a water provider, one can expect to hear evidence of such customs and practices as standard operating procedures ("SOPs"), expert testimony on the accepted customs and practices in the industry as a whole, and the introduction of documents like the standards of the American Water Works Association ("AWWA"). Though CACI 401 makes clear that a municipal water provider's SOPs and AWWA standards do not resolve the issue of the standard of care, they can be considered by a jury. An expert is free to testify that the AWWA standards are the recommended *minimum* standards that a water provider should follow. Conversely, a national standard may not reflect local practice in a particular community.⁶³ Since they are not an enforceable regulation or statute setting forth the standard of care, at most they provide factual information for the jury to consider at its discretion.

With respect to how a California jury should regard enforceable regulations and statutes, CACI 418 instructs:

If you decide

1. That [defendant] violated this law and
2. That the violation was a substantial factor in bringing about the harm,

Then you must find that [defendant] was negligent [unless you also find that the violation was excused]. If you find that [defendant] did

62. *Id.* § 413.

63. The Authors have found that, even among AWWA members, there are differing views on the impact of AWWA standards on standard operating procedures. The AWWA standards themselves include prefatory language that reads:

This document is an American Water Works Association (AWWA) standard. It is not a specification. AWWA standards describe minimum requirements and do not contain all of the engineering and administrative information normally contained in specifications. The AWWA standards usually contain options that must be evaluated by the user of the standard. Until each optional feature is specified by the user, the product or service is not fully defined. AWWA publication of a standard does not constitute endorsement of any product or product type, nor does AWWA test, certify, or approve any product. The use of AWWA standards is entirely voluntary. AWWA standards are intended to represent a consensus of the water supply industry that the product described will provide satisfactory service.

E.g., AM. WATER WORKS ASS'N, AWWA STANDARD FOR DISINFECTING WATER MAINS, at ii (2000).

Depending on the AWWA standard and when it was published, some may hold the view that AWWA standards set a minimum standard. In other instances, especially for newer standards, an operator's practice may rarely comport with the AWWA standard. Following each and every standard may also be impractical on a day-to-day basis.

not violate this law or that the violation was not a substantial factor in bringing about the harm [or if you find the violation was excused], then you must still decide whether [defendant] was negligent in light of the other instructions.⁶⁴

It is worth noting that, at least in California, a defendant municipality may insist that the court also provide instruction CACI 423 if the defendant is a public entity. CACI 423, “Public Entity Liability for Failure To Perform Mandatory Duty,” instructs that “[defendant], however, is not responsible for [plaintiff’s] harm if [defendant] proves that it made reasonable efforts to perform its duties under the [statute/regulation/ordinance].”⁶⁵

Thus, at least in California, as long as the public entity puts forth what the jury thinks is a “reasonable effort,” failure to comply may be excused. Among the sources and authorities cited for CACI 423, however, there is the warning that “[f]inancial limitations of governments have never been, and cannot be, deemed an excuse for a public employee’s failure to comply with mandatory duties imposed by law.”⁶⁶

B. Other Factors Influencing the Standard of Care

In California, the standard CACI jury instructions are “official instructions for use in the state of California,” and their use is “strongly encouraged.”⁶⁷ Still, they are not mandatory. A judge may elect to use a different instruction if she “finds that a different instruction would more accurately state the law and be understood by jurors.”⁶⁸ Given such license, it would not be unusual for a judge to modify the instructions, especially if supported by the Restatement of Torts and/or state case law that coincides with the particular circumstances.

With respect to litigation, jury instructions are especially critical because they provide the basic framework for what the jury is allowed to consider. A judge’s refusal to give a requested instruction, if in error, may also provide grounds for an appeal. With respect to municipal water providers, it is therefore important to research any special circumstances recognized in the Restatement of Torts that allow a jury to rule in one’s favor. In fact, the number of considerations are so numerous, in combination with the comments drafted for each section of the Restatement, that there is a high likelihood that at least one exception to the general rule can be found that provides a defendant with an argument for why it should not be held liable.

From a broad perspective, section 285 of the Restatement (Second) of Torts, “How Standard of Conduct Is Determined,” provides an initial list of options to consider:

64. CAL. CIVIL JURY INSTRUCTIONS § 418.

65. *Id.* § 423.

66. *Id.* (citing *Scott v. County of L.A.*, 32 Cal. Rptr. 2d 643, 654 (1994)); *see also Galati v. Lake Havasu City*, 920 P.2d 11, 16 (Ariz. Ct. App. 1996) (noting that a municipality is not entitled to absolute immunity for negligence that could have been prevented by some specific expenditure).

67. CAL. R. CT. 2.1050(a), (e).

68. *Id.* at 2.1050(e).

The standard of conduct of a reasonable man may be (a) established by a legislative enactment or administrative regulation which so provides, or (b) adopted by the court from a legislative enactment or administrative regulation which does not so provide, or (c) established by judicial decision, or (d) applied to the facts of the case by the trial judge or the jury, if there is no such enactment, regulation, or decision.⁶⁹

The first source of information on the standard of care is, therefore, a state's statutes and regulations.

But determining whether there is "a legislative enactment or administrative regulation" that provides a standard of care is not as simple as it sounds. Courts typically exercise considerable discretion in deciding whether a regulation is advisory in nature, as opposed to offering protection to an individual who has been harmed. For example, in *Melancon v. USAA Casualty Insurance Co.*, addressing certain Arizona regulations governing the insurance industry, the court held that "[t]he provisions of the Act are operational, much like the ethical considerations governing the conduct of attorneys and other professionals. The provisions are expressly not a standard of conduct against which an insurer's conduct in handling an individual claim is to be measured for creating a claim for relief."⁷⁰

Section 286 of the Restatement (Second) of Torts and its successor section 12 in the Restatement (Third) of Torts provide a court additional guidance on when a statute or regulation provides a standard of care.⁷¹ In addition, while "a person who violates a statute enacted for the protection and safety of the public" may be guilty of negligence *per se*,⁷² the violation must also be cause of the injury and be more than just a technical reporting violation.⁷³

Among the myriad of Restatement sections that an attorney may focus upon to suggest a revised jury instruction, section 288 establishes seven other

69. RESTATEMENT (SECOND) OF TORTS § 285 (1965).

70. 849 P.2d 1374, 1377 (Ariz. Ct. App. 1992).

71. RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL HARM § 14 (Proposed Final Draft No. 1, 2005); RESTATEMENT (SECOND) OF TORTS § 286 (1965). Section 286 of the Restatement (Second) of Torts, "When Standard of Conduct Defined by Legislation or Regulation Will Be Adopted," reads:

The court may adopt as a standard of conduct of a reasonable man the requirements of a legislative enactment or an administrative regulation whose purpose is found to be exclusively or in part (a) to protect a class of persons which includes the one whose interest is invaded, and (b) to protect the particular interest which is invaded, and (c) to protect that interest against the kind of harm which has resulted, and (d) to protect the interest against the particular hazard from which the harm results.

72. See, e.g., *Good v. City of Glendale*, 722 P.2d 386, 389 (Ariz. Ct. App. 1986).

73. See, e.g., *Alaface v. Nat'l Inv. Co.*, 892 P.2d 1375, 1387 (Ariz. Ct. App. 1994) (holding that a defendant's actions must be the proximate cause of a plaintiff's injuries in a claim based on negligence *per se*).

exceptions when a statute or regulation does not establish a standard of conduct.⁷⁴ In addition to these exceptions, section 288A provides a list of circumstances when a violation is excused. A violation may be excused when:

- (a) the violation is reasonable because of the actor's incapacity;
- (b) he neither knows nor should know of the occasion for compliance;
- (c) he is unable after reasonable diligence or care to comply;
- (d) he is confronted by an emergency not due to his own misconduct;
- (e) compliance would involve a greater risk of harm to the actor or to others.⁷⁵

Unless the particular regulation or statute clearly does not allow for such excuses, the Restatement thus offers a number of defenses that a municipal water provider may ask the jury to consider.⁷⁶

On the other hand, when a party has complied with a regulation and attempts to use its compliance to show that it was not negligent, the Restatements (and CACI 418) also make clear that compliance with a regulation does not necessarily provide a safe harbor from tort liability.⁷⁷ Under section 288C of the Restatement (Second) of Torts, one might argue that compliance with an MCL does not eliminate liability for harm caused by water with a lower concentration of a contaminant. Unless the statute has preemptive effect, a negligence claim may go forward.

The Restatement sections discussed above are but a few of the many that may apply to the circumstances of any given case. Others, such as section 290, "What Actor Is Required to Know;" section 291, "Unreasonableness: How Determined; Magnitude of Risk and Utility of Conduct;" and section 296, "Emergency," to name but a few, all include references to circumstances a municipal water provider likely encounters on a daily basis.⁷⁸ Each may be applicable.⁷⁹

74. RESTATEMENT (SECOND) OF TORTS § 288 (1965). For example, a regulation may impose upon a private entity an obligation to provide a public service, but the obligation runs to the state, not to individual members of the public who benefit from the service. *Id.* § 288 cmt. d.

75. *Id.* § 288A.

76. *See, e.g.*, *Brannigan v. Raybuck*, 667 P.2d 213, 217 (Ariz. 1983).

77. *See, e.g.*, *Hernandez-Gomez v. Leonardo*, 917 P.2d 238, 248 (Ariz. 1996) (holding that Volkswagen could be found liable in tort because Congress had not intended to occupy the entire field of performance standards when it set forth state crashworthiness standards in 15 U.S.C. § 1392(d)); RESTATEMENT (SECOND) OF TORTS § 288C (1965) ("Compliance with a legislative enactment or an administrative regulation does not prevent a finding of negligence where a reasonable man would take additional precautions.").

78. RESTATEMENT (SECOND) OF TORTS §§ 290, 291, 296 (1965).

79. After identifying and analogizing the relevant section, the battle then becomes whether a separate instruction can be incorporated into the questions put before the jury. Regardless of the authority that exists, a court may still refuse to include a separate instruction, fearing it may unduly sway a jury. *See Myhaver v. Knutson*, 942 P.2d 445 (Ariz. 1997), in which the court discussed whether to give an instruction pertaining to an emergency along the lines of section 296 of the Restatement (Second) of Torts and stated the following:

VI. PRODUCT LIABILITY CLAIMS

With respect to tort claims that a plaintiff may use to seek recovery, the common law continues to evolve. Recent decisions suggest that courts are on the brink of allowing a customer to seek recovery against a municipal water utility for having marketed a defective “product” which, under the law of product liability, includes strict liability.

The significance of regarding water as a “product” and adopting a strict liability scheme is that it allows a consumer to recover without showing negligence on the part of the defendant, and thereby avoids much of the debate over the standard of care. In other words, once the consumer shows the water was contaminated and caused harm (was defective), the consumer need not prove that the provider departed from the ordinary standard of care expected of a water utility. The utility can be held liable regardless of whether it exercised care. Since a consumer will rarely be able to determine how his tap water became contaminated, such as establishing that a buried water main break was not properly disinfected or that the utility failed to maintain proper chlorination in a storage tank, strict liability eliminates an element of proof that is often too difficult for plaintiffs to overcome.

Product liability thus provides a consumer powerful leverage in litigation against manufacturers who mass produce products that are defective in design or distributed without proper warnings. On a basic level, characterizing drinking water as a “product” seems logical, as product liability claims have long been a means for recovering for tainted food and beverage. Arizona’s statute on product liability, for example, specifically defines “food product” as “any product that is grown, prepared, provided, served or sold and that is primarily intended for human consumption and nourishment.”⁸⁰ Arguably, municipal drinking water falls within that definition. Courts regard bottled water as a product subject to a product liability claim,⁸¹ so why not drinking water delivered by a municipal water provider?

A. Historically, Municipal Water Providers Have Not Been Subject to Product Liability Claims

Commentators on Arizona’s negligence law have described the problem and the present state of our law as follows: “Conceptually, the emergency doctrine is not an independent rule. It is merely an application of the general standard of reasonable care; the emergency is simply one of the circumstances faced. Arguably, giving a separate instruction on sudden emergency focuses the jury’s attention unduly on that aspect of a case. [Still, t]he Arizona Supreme Court has expressly declined to decide the question of the propriety of a separate emergency instruction.”

Myhaver, 942 P.2d at 447 (internal citations omitted).

80. ARIZ. REV. STAT. ANN. § 12-681(2) (2006).

81. See, e.g., *Sutera v. Perrier Group of Am., Inc.*, 986 F. Supp. 655 (D. Mass. 1997).

Tracing the history of product liability provides some insight on why strict liability has historically *not* been applied to municipal water providers. First, the development of product liability as a separate legal theory is relatively new. While some attribute the beginnings of product liability to the decision of Justice Benjamin Cardozo, whose 1916 decision in *MacPherson v. Buick Motor Co.*⁸² removed the need for privity between the manufacturer and the consumer, it was not until the 1960s that strict liability accompanied the theory. Until the 1960s decisions in *Henningsen v. Bloomfield Motors, Inc.*⁸³ and *Greenman v. Yuba Power Products*,⁸⁴ courts required some proof of negligence. It was not until 1965 that the Restatement (Second) of Torts recognized a strict product liability claim,⁸⁵ and not until 1979 that the United States Commerce Department found product liability theory so widely accepted that it proposed that states adopt a uniform statute.⁸⁶

Second, the law of product liability does not apply to services that are rendered.⁸⁷ Thus, though the definition of “product” has been broadly construed as “anything made by human industry or art,” courts, at least initially, were reluctant to include municipal services such as electricity as products.⁸⁸ In addition, state statutes, such as those in Arizona, do not refer to the business of water companies as being the sale of water. For example, a municipal water company in Arizona has a *service* area right to pump groundwater “for the benefit of landowners and

82. 111 N.E. 1050 (N.Y. 1916). Cardozo wrote:

If the nature of a thing is such that it is reasonably certain to place life and limb in peril when negligently made, it is then a thing of danger. Its nature gives warning of the consequences to be expected. If to the element of danger there is added knowledge that the thing will be used by persons other than the purchaser, and used without new tests then, irrespective of contract, the manufacturer of this thing of danger is under a duty to make it carefully.

Id. at 1051.

83. 161 A.2d 69 (N.J. 1960).

84. 377 P.2d 897 (Cal. 1963).

85. RESTATEMENT (SECOND) OF TORTS § 402A (1965). In 1998, the American Law Institute completed a total overhaul of section 402A to include the many variations in the tort that courts recognized in the thirty-plus years since it was first published. Products Liability now makes up sections one through twenty-one of the Restatement (Third) of Torts published in 1998, which are slowly making their way into court rulings as the theory evolves even further.

86. See MODEL UNIF. PROD. LIAB. ACT, 44 Fed. Reg. 62,714–50 (1979).

87. See *Menendez v. Paddock Pool Constr. Co.*, 836 P.2d 968, 972 (Ariz. Ct. App. 1991) (noting that products liability only allows suit for providing defective “products” as defined by the Restatement (Second) of Torts, legislation, or case law); RESTATEMENT (SECOND) OF TORTS § 402A (1965).

88. *Otte v. Dayton Power & Light Co.*, 523 N.E.2d 835, 838 (Ohio 1988). With respect to electricity, which was the issue in *Otte*, the court provided an oft-cited general definition for what constitutes a product. *Id.* Still, it recognized that the definition has limits, especially with respect to services. “DP&L does not manufacture electrically charged particles, but rather, sets in motion the necessary elements that allow the flow of electricity. . . . Such a system is, in our view, a service.” *Id.*

residents within its *service area*.⁸⁹ Article fifteen, section two of the Arizona Constitution classifies private water companies as “public service corporations” subject to regulation by the Arizona Corporation Commission.⁹⁰ Some courts hold that statutory references are persuasive to show that the law of product liability is inapplicable.⁹¹

Courts also look at various policy considerations in determining whether something is a product. Under Arizona law, strict product liability applies only to the extent it promotes sound public policy.⁹² Granted, one of the main policies behind product liability is the need to improve product safety, but when it comes to public safety, courts have also recognized that a comprehensive regulatory scheme may obviate the need for strict tort liability.⁹³ With respect to municipal electricity, courts have thus rejected the need for a common law strict liability scheme because municipal electric companies are very closely regulated with regard to safety.⁹⁴ Similarly, one may argue that the entire process of collecting and distributing potable water is subject to the comprehensive SDWA.

The ability of manufacturers to absorb the cost of making safer products by passing that cost along to consumers in the price of the product is another traditional justification for strict product liability with questionable applicability to municipal water systems.⁹⁵ For example, some commentators point out that such cost-spreading would be an ineffective and a dangerous precedent to apply to public utilities, which do not exist in a free market.⁹⁶ These decisions theorize that the financial cost of applying strict liability would eliminate a municipality’s ability to provide water service.⁹⁷

B. Adel v. Greensprings of Vermont, Inc.

89. ARIZ. REV. STAT. ANN. § 45-492(A) (2006) (emphasis added).

90. ARIZ. CONST. art. 15, § 2; ARIZ. REV. STAT. ANN. § 40-202; *see also* Santa Cruz Irrigation Dist. v. City of Tucson, 494 P.2d 24, 25 (Ariz. 1972) (“[T]he service of domestic water . . . is one of the fundamental purposes for the incorporation of cities and towns.”).

91. *See, e.g.*, G&K Dairy v. Princeton Elec. Plant Bd., 781 F. Supp. 485, 489 (W.D. Ky. 1991) (holding that where no Kentucky decision is on point, the statute describing Kentucky’s public utilities as “services” bars the application of products liability).

92. *Menendez*, 836 P.2d at 974.

93. *Id.* at 977; *Otte*, 523 N.E.2d at 842.

94. *E.g.*, United Pac. Ins. Co. v. S. Cal. Edison Co., 209 Cal. Rptr. 819, 824 (Ct. App. 1985).

95. *E.g.*, Salt River Project Agric. Improvement & Power Dist. v. Westinghouse Elec. Corp., 694 P.2d 198, 205 (Ariz. 1984).

96. *E.g.*, State Farm Fire & Cas. Co. v. Municipality of Anchorage, 788 P.2d 726, 729 (Alaska 1990) (noting that applying strict liability would gravely threaten water utilities); *City of Salem v. Harding*, 169 N.E. 457, 459 (Ohio 1929) (noting that municipalities would go out of business if it had to guarantee the purity of the water supply).

97. *See State Farm Fire & Cas. Co.*, 788 P.2d at 729; *City of Salem*, 169 N.E. at 459.

Perhaps as a consequence of these public policy arguments, only one decision up until 2005 held that water served by a municipality constitutes a product.⁹⁸ Even in the case of *Moody v. City of Galveston*, however, the circumstances were somewhat unusual, and the injury did not come from *drinking* municipal water. In *Moody*, natural gas in the municipal water system caught fire when the customer placed an ashtray with a lighted cigarette into the sink after turning on the tap.⁹⁹

But thirty years after *Moody*, in *Adel v. Greensprings of Vermont, Inc.*, another court revisited the issue of whether municipal water is a product subject to a strict product liability claim.¹⁰⁰ Under different facts, it reached the same conclusion. The U.S. District Court for the District of Vermont held that Greensprings of Vermont, Inc., a small privately owned water system that supplied water to an apartment complex near Mt. Snow, supplied a “product” and could be held strictly liable for the plaintiff’s personal injury claims. In circumstances less atypical than in *Moody* (which, again, involved flammable natural gas in the water), the Adels brought suit against Greensprings after Mr. Adel was diagnosed with Legionnaires’ disease. Through monoclonal-antibody subtyping, the U.S. Center for Disease Control was able to match the bacteria taken from Mr. Adel, who went into a coma because of the disease, to the bacteria found in the apartment unit where he and his family stayed during their vacation.¹⁰¹

The complaint in *Adel* included a claim alleging breach of warranty under Vermont’s Uniform Commercial Code (“UCC”) as well as a product liability claim under section 402A of the Restatement (Second) of Torts. Analyzing the UCC claim first, which has a similar limitation to a product liability claim in that it only applies if the seller is a merchant with respect to goods, as opposed to services, the court found that six of eight published decisions involving water suppliers support that municipal water is a “good.”¹⁰² The court then sided with the majority. On the issue of whether there is an implied warranty of merchantability, the court agreed with the Pennsylvania Supreme Court decision in *Gall v. Allegheny County Health Department* that there is an implied warranty,¹⁰³ thereby rejecting the more recent holding in *Mattoon v. City of Pittsfield*.¹⁰⁴

98. See *Moody v. City of Galveston*, 524 S.W.2d 583, 588 (Tex. App. 1975).

99. *Id.* at 585.

100. 363 F. Supp. 2d 692, 696 (D. Vt. 2005).

101. *Id.* at 693–96.

102. *Id.* at 696–97.

103. *Id.* at 698–99 (citing *Gall v. Allegheny County Health Dep’t*, 555 A.2d 786, 788–90 (Pa. 1989)).

104. *Id.* at 698 (rejecting *Mattoon v. City of Pittsfield*, 775 N.E.2d 770, 783–84 (Mass. App. Ct. 2002)). With respect to the UCC, *Adel* thus holds that water providers can be liable for any economic harm caused by the quality of the water delivered. *Id.* at 698–99. Note that the Massachusetts Appeals Court, in considering whether water was a “good” for purposes of the UCC, reached the opposite conclusion—that the business of a municipal water company does not involve supplying a “good.” *Mattoon*, 775 N.E.2d at 783–84. In *Mattoon*, the court held:

Here, the city did not create or manufacture the water. Rather, the city, by a system of reservoirs, captured the water from brooks, streams, and

The court then reasoned that one who is engaged in the business of selling “goods” must also be engaged in the business of selling a product subject to a strict product liability claim.¹⁰⁵ The court supported its position by citing the Vermont decision in *Darling v. Central Vermont Public Service Corp.*, which noted that most courts have held that electricity is a product.¹⁰⁶

C. A New Wave of Claims Against Water Providers?

Both economically and logistically, *Adel* has far-reaching implications indeed, assuming that other courts follow its reasoning. Hypothetically, if strict liability applies, one would be able to recover not only for the rare incidence of Legionnaire’s disease, but also for abdominal discomfort or an ulcer allegedly caused by minor contaminants or dissolved solids. If municipal water suppliers were held strictly liable for such personal injury claims, the cost of doing business would obviously escalate as insurance costs increased to cover the risk.

To protect against such liability, municipal water suppliers arguably would have a “duty to warn” anyone who may consume the water of the attendant risks of harm, however small. Yet how should Greensprings have warned its customers about the bacteriological content—especially the Adels, who were only vacationing in its service area, and who were unlikely to have received any written communications concerning the quality of the water being supplied? Also, with respect to emerging contaminants, what should a warning say? Which contaminants (and associated diseases) must the warning include? Can the warning merely refer to contaminants that exceed an MCL, or must it refer to every contaminant that was ever detected in the water supply?

Additionally, what methods must be used to detect contaminants? In *Jones v. Mt. Holly Water Co.*, the court held that “[a]ctual notice or knowledge of the unwholesomeness of the water of the defendant company was not an essential element . . . [i]t was sufficient . . . that the defendant, in the exercise of reasonable care, *might* have discovered the unwholesomeness and dangerous condition of the water.”¹⁰⁷ With quickly evolving technologies that allow detections in the parts per trillion, determining what a lab *might* have discovered would require a water provider to keep abreast of the latest developments in state-of-the-art laboratory

rainfall. It treated the water and then distributed it to its citizens. Although the city charged a sum for the water, that rate reflected the cost of storage, treatment and distribution. Thus, it is clear that the predominant factor, thrust, or purpose of the activity was the rendition of services and not the sale of goods.

Id. at 784.

The *Mattoon* court held there was no manufacturing activity and nothing produced. Interestingly, in *Mattoon*, the plaintiffs attempted to persuade the court that water was manufactured by arguing that the city, as part of its everyday operation, tested for turbidity and treated the water with chlorine. But in *Mattoon*, such activity was held to be incidental to the service being provided and, thus, did not constitute manufacturing. *See id.* at 773.

105. *Adel*, 363 F. Supp. 2d at 699.

106. *Id.* (citing *Darling v. Cent. Vt. Pub. Serv. Corp.*, 762 A.2d 826, 828 (2000)).

107. 93 A. 860, 861 (N.J. 1915) (emphasis added).

techniques. Whether the testing is affordable on a system-wide basis is another question.

VII. DOES A WATER SERVICE ENGAGE IN AN “ABNORMALLY DANGEROUS” ACTIVITY?

Common law tort theory recognizes another category of activities, in addition to product manufacture, for which one may be held strictly liable. When one chooses to engage in an “abnormally dangerous” activity, one may be held strictly liable for any personal injury or property damage that results, regardless of the precautions taken. The theory is that such activities are so dangerous and so risky that anyone who chooses to undertake them should be held accountable for whatever injury or damage results.

Before applying strict liability, a threshold determination for the court is whether the activity is one that the common law regards as abnormally dangerous.¹⁰⁸ Historically, the list is quite limited, and includes only those activities such as blasting with explosives which are universally acknowledged to have a high degree of risk combined with a likelihood of serious injury.¹⁰⁹ In making that determination, courts often consult the factors listed in section 520 of the Restatement (Second) of Torts, which include the following:

- (a) existence of a high degree of risk of some harm to the person, land or chattels of others;
- (b) likelihood that the harm that results from it will be great;
- (c) inability to eliminate the risk by the exercise of reasonable care;
- (d) extent to which the activity is not a matter of common usage;
- (e) inappropriateness of the activity to the place where it is carried on; and
- (f) extent to which its value to the community is outweighed by its dangerous attributes.¹¹⁰

An analysis of these factors suggests that it would be highly unusual for a court to characterize the act of providing drinking water as one that is abnormally dangerous. For example, in *Summit Hill Associates v. Knoxville Utilities Board*, the court held it would be completely illogical to find that the delivery of water is abnormally dangerous when courts have declined to apply the doctrine to suppliers of natural gas, both of which are delivered through a pipeline.¹¹¹ In combination,

108. In Arizona, the court in *Perez v. Southern Pacific Transportation Co.* held that “[w]hether an activity is abnormally dangerous is not a fact question; such determinations are for the court.” 883 P.2d 424, 425 (Ariz. Ct. App. 1993).

109. See RESTATEMENT (SECOND) OF TORTS § 520 cmts. f, g (1977).

110. *Id.* § 520.

111. 667 S.W.2d 91, 95 (Tenn. Ct. App. 1984); see also *John T. Arnold Assocs. v. City of Wichita*, 615 P.2d 814, 825 (Kan. Ct. App. 1980) (applying section 520 of the Restatement (Second) of Torts to hold that transporting water through water mains is not an abnormally hazardous activity); *Gillette Shoe Co. v. City of New York*, 447 N.E.2d 38, 40 (N.Y. 1983) (holding that even negligence will not lie where a municipality has no

plaintiffs likely face an uphill battle in showing that a municipal water service engages in an abnormally dangerous activity. Applying all of the factors, there are ample policy considerations for not applying the theory.

A. Is a Municipal Water Provider Exempt from the Application of Strict Liability Because It Acts Pursuant to a Public Duty?

Regardless of whether a court finds that a municipal water provider engages in an abnormally dangerous activity, one may argue that section 521 of the Restatement (Second) Torts provides a safe harbor under certain circumstances.¹¹² For those who act pursuant to a public duty imposed upon them, section 521 recognizes that such activities should not be subject to strict liability.¹¹³ One may thus argue the public-duty exception precludes strict liability for a municipal water company.¹¹⁴

VIII. CONCLUSION

With respect to claims a plaintiff may bring against a water provider, there is ample precedent for tort claims based on negligence and, with the holdings in *Moody* and *Adel*, at least some precedent for a strict liability claim.¹¹⁵ As public perception of acceptable risk continues to evolve, the factors recognized by the Restatement of Torts, frequently incorporated into jury instructions in most states, may allow a jury to hold municipal water providers accountable, even for levels of contamination less than an MCL or even where no MCL exists.¹¹⁶ At the same time, vestiges of governmental immunity still survive for municipal water companies as opposed to private water companies, and in some states such as Arizona, safe harbor provisions have been adopted if the water provider has complied with the SDWA.¹¹⁷

To explain how the theories fit together, Part II provides a real-life case study showing how a court in Arizona dealt with these issues in circumstances involving an emerging contaminant, the microbial parasite *Naegleria fowleri*. With respect to *Naegleria*, there is no question that it was deadly; the only question is where it came from and who, if anyone, should have been held accountable. One

significant warning of the bacteria's existence and, therefore, no duty to conduct tests for bacteria); *Albig v. Mun. Auth. of Westmoreland County*, 502 A.2d 658, 663–64 (Pa. Super. Ct. 1985) (holding that a municipality's storage of water on a hillside was not abnormally dangerous based on section 520(f) of the Restatement (Second) of Torts, due to its value of water service to the community).

112. RESTATEMENT (SECOND) OF TORTS § 521.

113. *Id.*; see also, e.g., *Albig*, 502 A.2d at 664 (holding that absolute liability would not be imposed because otherwise hazardous activity was carried on pursuant to a public duty).

114. See *State v. Bartos*, 423 P.2d 713, 714 (Ariz. 1967) (a municipality acts within its police power when it acts to promote public health of its citizens); see also *Transamerica Title Ins. Co. v. City of Tucson*, 533 P.2d 693, 695 (Ariz. Ct. App. 1975) (a city exercises its police power when it acts to promote public convenience and general prosperity, as well as public safety and health).

115. See *supra* Parts III, VI.B.

116. See *supra* Part V.

117. See *supra* Parts IV, VI.A.

can just as easily evaluate litigation involving an emerging chemical contaminant, assuming evidence exists to establish medical causation.

PART II – CASE STUDY

I. INTRODUCTION: THE CASE OF *NAEGLERIA FOWLERI* IN GROUNDWATER

To help explain the current liability exposure of municipal water providers, the following real-life case study involving the microbe *Naegleria fowleri* illustrates the tort allegations a water provider may face.¹¹⁸ The incident received national publicity when *Naegleria fowleri* caused the deaths of two five-year-old boys in the Phoenix area in 2002. Prior to this case, no plaintiff had ever brought a lawsuit for injury caused by this parasite. As a matter of record, the number of incidents is extremely rare, even if one includes those related to swimming in infested surface waters and poorly chlorinated swimming pools, where the municipal drinking water supply is not the source of the parasite. The two deaths in Phoenix thus provide a good example of how a municipality may still face potential liability for delivering ground water containing an emerging contaminant that is *not* the focus of state or federal guidelines.

A. Plaintiffs' Allegations

According to the allegations in the plaintiffs' complaint, the two boys in this case study were exposed to *Naegleria fowleri* when they bathed in the water delivered by a private water company in late September or early October of 2002.¹¹⁹ In their initial complaint, the plaintiffs included as defendants the private water company that directly served the homes of the two boys, along with an independent operator who ran the water system under a contractual arrangement with the private water company. As the case evolved, additional defendants were added, including two private water companies and the municipal water company that served the neighboring areas.¹²⁰ These other water providers, whose service areas adjoined the first private water company defendant, had provided water to the first private water company during periods when it was short of water due to equipment malfunctions.

Casting the net further, the plaintiffs also named the state and county agencies overseeing SDWA enforcement, along with contractors known to have worked on the groundwater wells that were used as a source of the water supply nearby.¹²¹ As it turned out, the two wells in the plaintiffs' service area had significant repairs during the months leading up to date of likely exposure. The contractor who installed the new equipment in one of the wells was included as a

118. This case study focuses on the ongoing Arizona case of *Luna v. Rose Valley Water Co.*, No. CV2002-070537 (Maricopa County Super. Ct. filed Dec. 5, 2002).

119. Fourth Amended Complaint, Wrongful Death, Negligence, Products Liability, Strict Liability, Punitive Damages at 4–5, *Luna v. Rose Valley Water Co.*, No. CV2002-070537 (Maricopa County Super. Ct. Jan. 9, 2004) [hereinafter Fourth Amended Complaint].

120. *Id.* at 2–3.

121. *Id.* at 2–4.

defendant, based on allegations that the equipment was not properly disinfected following the installation.

In this case, it bears mentioning that most of the water system infrastructure and groundwater wells were relatively new, and that the plaintiffs' homes were in housing developments that were less than ten years old. In other words, this case is most likely not a case of aging infrastructure.¹²²

As for the municipal water provider, it is fair to say that its system was state-of-the-art. In addition, unlike the private water company, the municipal water system was chlorinated. Prior to the point of chlorination, however, one of the municipality's wells had tested positive for the *Naegleria* amoeba in November 2002 during an investigation to determine the source of the amoeba in the private water company's water supply. (Ironically, the particular well was not suspected as a source initially, but was chosen randomly to provide a control sample during the investigation following the deaths.) Plaintiffs then amended their complaint, focusing on the fact that, in July 2002, the municipal water provider had supplied water to the private water company during a two-day period.¹²³ Based on the well samples and the one interconnection, the municipality was hauled into court for providing a possible source of the deadly amoeba.

Plaintiffs asserted three separate claims against the municipal water provider: negligence, strict liability for abnormally dangerous activity, and strict liability for supplying a defective product.¹²⁴ Each claim concluded that the municipal water provider and the private water company were jointly and severally liable to the plaintiffs.¹²⁵ The complaint also alleged punitive damages against each of the defendants.¹²⁶

B. Naegleria fowleri

Naegleria fowleri is a species of parasitic amoeba commonly found in soil; warm, slowly moving fresh water; sewage; and sludge. There are thirty different species of *Naegleria* and six different genotypes of *Naegleria fowleri*. The exposure pathway that allows *Naegleria fowleri* to enter the bloodstream is thought to be through the top of the nasal cavity, after which the parasite can reach the cranium, where it attacks the lining of the brain and the brain itself. The name of the specific disease is primary amoebic meningoencephalitis ("PAM"). Oddly, PAM does not typically result from drinking water contaminated by *Naegleria*

122. As is typical in growing cities in the Southwest, however, there was evidence that the private water system in the plaintiffs' service area was installed in a piecemeal fashion as new housing developments sprung up. There were many "dead ends" where certain areas were still awaiting development. In other areas, especially where older homes were situated, the exact location of the system and its interconnections were unknown. Years earlier, the area was occupied by small ranches and horse properties, some of which had their own wells and water systems. Some of the early infrastructure was still in place, inherited by the private water company.

123. Fourth Amended Complaint, *supra* note 119, at 2, 14–16.

124. *Id.* at 14–16.

125. *Id.*

126. *See id.* at 15, 21.

fowleri, because the parasite requires a direct route to the bloodstream. If a young child were to aspirate water up his or her nose, however, the parasite may enter the bloodstream, and once it begins to multiply, it has a ninety-five percent chance of causing death. From the date of exposure, death usually occurs in less than a week to ten days. In short, when there is an incident, the risk of significant injury is high.

As a pathogen, *Naegleria* represents one whose presence is generally known, yet the risk of an outbreak of disease is extremely small. *Naegleria fowleri* is normally associated with warm, stagnant surface water. According to one authority, "PAM cases occur typically in the hot summer months and coincide with the increase in the number of people engaging in aquatic activities in freshwater bodies such as lakes and ponds as well as improperly chlorinated swimming pools that may harbor the amoebas. It is estimated that one case of PAM occurs in approximately 2.5 million swimmers."¹²⁷ Thus, whereas the presence of *Naegleria fowleri* has been described as "ubiquitous," it is clear that the amoeba is not universally virulent or pathogenic. In fact, children up to the age of two frequently carry the organism asymptotically in their noses and throats. There are only approximately 200 cases of PAM associated with *Naegleria fowleri* in all of medical history. And, as of 2002, the date of the Arizona incident, there were no reported cases of death or disease in the United States arising from the presence of *Naegleria fowleri* in a *drinking water supply*.

Turning back to the private water company's system, there was evidence that it had received customer complaints about foul-smelling water and inadequate water pressure, a frequent problem in a new housing development. Records showed that when the private water company received calls about foul-smelling water, it would occasionally chlorinate the system by adding swimming pool chlorine to the small storage tanks adjacent to the groundwater wells. Though one would think these attempts at disinfection were a step in the right direction, it is possible that these random chlorination events could have loosened the biofilm in the system and mobilized the parasite living in the biofilm, causing it to be transported in the water system in greater number. In all, there were numerous potential sources of the amoeba, but there was little evidence tying any one source to the homes the two boys occupied, other than the private water company's water in which both boys had routinely bathed.¹²⁸

II. THE FACTUAL ISSUES REGARDING NAEGLERIA AND SYSTEM OPERATIONS

With respect to the evidence against the municipal water provider, plaintiffs arguably had to demonstrate that the municipal water transferred *Naegleria* bacteria to the private water company *and* that the decedents were exposed to the *Naegleria* attributable to the municipal water provider. With respect to the municipal water company, the proof of transfer would hinge on whether it failed to properly disinfect either the interconnection when it provided the private

127. AM. WATER WORKS ASS'N, WATERBORNE PATHOGENS 200 (1999) [hereinafter WATERBORNE PATHOGENS].

128. Subsequent tests by the Centers for Disease Control appeared to link the *Naegleria* in the private water company's system to the type that caused the boys' deaths.

water company with water, or its groundwater well during operations, or a pipe repair that occurred earlier, and thereafter failed to keep chlorine residuals high enough to keep the *Naegleria* from multiplying. *Naegleria* exists in soil in a cyst form and, in water, requires a relatively high level of chlorine over a relatively long time period to kill it. It can remain inactive for extended periods of time and can, in warm, poorly chlorinated water, transform itself into the active form in which, if nasally ingested, it can kill. Thus, the factual questions likely to arise if the case went to trial would include:

- What chlorine level is needed to inactivate *Naegleria*?
- What chlorine residual level is needed to keep *Naegleria* inactive?
- Does the absence of coliform in a public water supply system preclude the presence of *Naegleria*?
- What was the impact of repair practices used by the municipal water provider during distribution line repair?
- Did the meter and backflow assembly used to establish the interconnection cause the contamination?
- Could the transfer of any *Naegleria* months earlier have caused the exposures that occurred weeks prior to the deaths?
- Was there any way to trace the *Naegleria* to a particular water source?

Based on the list above, one can see that this case study involves both “traditional” issues relating to the “normal” operation of a water system and “emerging” issues, such as the impact of system repairs and hydrant flushings on the existence of bacteria in a water system. In this case study, it should be noted that the total chlorine and residual chlorine levels in the municipal water system (upstream to the private water company’s system) were excellent throughout the period in question; one sample with acceptable levels was taken just two blocks away from the interconnection between the two systems. Still, the source of *Naegleria* remained an open question.

III. LEGAL ISSUES RAISED

A. *The Alleged Negligence*

To show that the risk of the parasite was known, the plaintiffs in this case cited to the AWWA’s *Manual of Water Supply Practices*, published in 1999 (“the Manual”).¹²⁹ The plaintiffs cited to the following narrative from page seven:

Contaminated groundwater has caused more water-borne outbreaks than contaminated surface water. In each decade since 1920, contaminated, inadequately treated groundwater has caused 44% to 56% of all reported outbreaks . . . , whereas, inadequately treated

¹²⁹ The book referenced by plaintiffs here is WATERBORNE PATHOGENS, *supra* note 127.

surface water has caused 9% to 35% of all outbreaks During the last six years, 44% of all outbreaks were attributed to contaminated, inadequately treated groundwater; only 9% were attributed to inadequately treated surface water.¹³⁰

The plaintiffs also cited the following:

As of October 1, 1996, more than 175 cases of PAM [(primary amoebic meningoencephalitis)] caused by *N. fowleri* had been reported worldwide [*N. fowleri*] has been isolated from fresh water, including tap water, thermal discharges of power plants, heated swimming pools, hydrotherapy and remedial pools, aquaria, sewage, and even from nasal passages and throats of healthy individuals.¹³¹

The plaintiffs' allegations against the other water provider defendants included that they did not properly disinfect the cross-connection¹³² between their systems and the system of the private water company which supplied the customers. The plaintiffs also alleged that the water providers did not properly repair breaks in distribution lines and did not properly disinfect after making repairs, allowing the parasite to enter the water systems.

Arguably, the *Manual* provides a basis for what constitutes "best management practices" within the water industry from the viewpoint of experts in the industry—national and international—but the question remains whether it advises water companies of the procedures, and the importance of such procedures, to the extent necessary to avoid the risk of an emerging contaminant.¹³³ The AWWA's *Manual* deals principally with the filtration and disinfection of water supplies to assure public health; it only incidentally covers issues such as flushing fire hydrants and distribution systems. Moreover, the manual does not deal at all with issues such as disinfecting wells, one of the acts that the plaintiffs alleged was performed negligently. In other words, though the

130. WATERBORNE PATHOGENS, *supra* note 127, at 7.

131. *Id.* at 200.

132. Under Arizona regulations, a "cross connection" means "a physical connection between a public water system and any source of water or other substance that may lead to contamination of the water provided by the public water system through backflow." ARIZ. ADMIN. CODE § R18-4-101 (2006) (emphasis added). The issue of "backflow prevention" is covered by section R18-4-115 of the Arizona Administrative Code, which provides that a water supplier "shall protect" its public water system "from contamination caused by backflow through *unprotected* cross-connections by requiring the installation and periodic testing of backflow-prevention assemblies." § R18-4-115 (emphasis added). We are told that some backflow-prevention course instructors take the position that, if a backflow-prevention assembly is used, there is no "cross-connection" between the two systems—i.e., if water can flow only one way, the two systems are not "cross-connected." Although that point is understandable, it might not be a layman's interpretation of the situation. This is an issue in terminology that we will have to resolve.

133. Recent informal surveys suggest that, even when instructed by AWWA manuals and publications on the importance of such procedures, a significant percentage of water providers do not follow such practices on a daily basis, and certainly under emergency circumstances find it infeasible to implement every AWWA practice and procedure.

Manual acknowledges that the pathogen exists, a private water company, by consulting the *Manual*, would not receive advice on the importance of properly disinfecting a *groundwater* well as a necessary precaution to guard against the waterborne pathogen. As of 1999, the *Manual* certainly did not advise on the best management practices with respect to *Naegleria*.

B. The Legal Implications of Not Disinfecting

A distinction must be drawn between what is legally possible and what is legally defensible. Unlike surface water systems, which under the EPA's Surface Water Treatment Rule must be disinfected, groundwater systems do not have to be automatically disinfected.¹³⁴ Therefore, it is legally permissible for a groundwater system operator to not disinfect its water. However, it is important to note that "[c]ontaminated groundwater has caused more waterborne outbreaks than contaminated surface water."¹³⁵

With respect to the standard of care in this case, the plaintiffs' expert microbiologist opined, among other things, to the following:

Groundwater that is not disinfected poses a major risk of causing significant illnesses, including death, to people and animals.

Chlorination is one of the best known and widely used methods of disinfecting water.

In order to ensure safe drinking water, operators need to employ "barriers of protection" which include monitoring for indicator organisms. A breach of any of these barriers is an indication that chlorination would be necessary.

Ignoring, for the moment, the expert's opinion, articles in both scientific literature and trade publications highlight the importance of drinking water system disinfection.¹³⁶ Arguably, in order to operate their system in a reasonable and prudent manner, operators and/or owners would be expected to know about the content of these publications.

C. Defenses to the Negligence Claim

In the case study, it was not alleged that the municipal water provider exceeded any MCL, or that any of its water that was transferred tested positive for coliform bacteria. Without a regulatory violation, how then could the plaintiffs assert that the municipality was liable? A negligence claim requires showing that some duty was breached and that the breach proximately caused injury.¹³⁷ Also, it was the private water company that supplied the homes in question, not the

134. See, e.g., 40 C.F.R. § 141.72 (2006) (mandating disinfection regulations only for surface water and ground water "under the direct influence of surface water"). See generally 40 C.F.R. pts. 9, 141–142.

135. WATERBORNE PATHOGENS, *supra* note 127, at 7.

136. See, e.g., *id.*

137. In Arizona, for example, see *Donnelly Construction Co. v. Oberg/Hunt/Gilleland*, 677 P.2d 1292, 1295 (Ariz. 1984), or *Randolph v. Arizona Board of Regents*, 505 P.2d 559, 560 (Ariz. Ct. App. 1973).

municipal water provider. Defending against a negligence claim, therefore, the municipality could try to show that it did not cause the injury, or that the municipal water provider did not breach any duty owed to the plaintiffs. Either one should suffice.

1. Did the Municipal Water Provider Owe a Duty to Plaintiffs with Respect to Water It Supplied to the Private Water Company?

The plaintiffs alleged that the *private* water company's failure to chlorinate its water led to the presence of *Naegleria*.¹³⁸ As a threshold issue, therefore, the municipal water provider could argue that it should not be liable if it was indeed the private water company's failure to chlorinate that caused the deaths, rather than the quality of the water upstream. Where the harm is caused by the intervention of factors or forces that form no part of the recognizable risk, the actor is ordinarily not liable.¹³⁹ In short, the municipality should not be liable for the private water company's failure to keep the water free of pathogens after the municipality's water was received.

Further, one aspect of negligence is that the risk of injury be known. And, not only did the plaintiffs have to show that any risk posed by the private water company's system was known to the municipal water provider, the plaintiffs also had to demonstrate that the *magnitude* of the risk justified taking affirmative action to mitigate it.¹⁴⁰

Also, a duty to take positive action is not imposed except under circumstances in which the benefit to the other outweighs the burden to the actor.¹⁴¹ Thus, the municipality could argue that the private water company, which was far more knowledgeable of how its own system worked, was in a far better position to assure compliance.¹⁴²

2. Was the Municipal Water Provider's Compliance with Regulatory MCLs Sufficient To Preclude Liability?

As explained in the comments to section 285 of the Restatement (Second) of Torts, the function of the trial court and the jury in determining the duty owed only comes into play where "there is no legislative enactment covering the circumstances of a particular case."¹⁴³ According to Arizona case law, a "mandated standard of care necessarily preempts the inquiry in a common law negligence case

138. Fourth Amended Complaint, *supra* note 119, at 8.

139. *Chavez v. Tolleson Elementary Sch. Dist.*, 595 P.2d 1017, 1022 (Ariz. Ct. App. 1979) (citing RESTATEMENT (SECOND) OF TORTS § 281 cmt. f (1965)); *see also* RESTATEMENT (SECOND) OF TORTS § 290 cmt. c ("[T]he actor is entitled to assume that others will act with normal propriety or will not be guilty of negligence or intentional misconduct . . . he is not required to anticipate and provide against such misconduct.").

140. *See* RESTATEMENT (SECOND) OF TORTS § 291.

141. *See id.* §§ 314–324A.

142. *See id.* § 291 cmt. f ("Even where the relationship or precedent act is one which usually creates a duty of protective action, no such duty exists if the benefit to the other is less than, or merely equal to, the utility of action or inaction to the actor."); *see also* *Mills v. Charles Roberts Air Conditioning Appliances*, 379 P.2d 455, 456–57 (Ariz. 1963).

143. RESTATEMENT (SECOND) OF TORTS § 285 cmt. f.

of whether the risk of harm . . . is an unreasonable one.”¹⁴⁴ Arguably, the municipality could not be liable for any personal injury action unless it had violated one of the MCLs.

Moreover, a municipal water provider’s common law duty is defined by the custom in the community. As described by the Restatement, “If the actor does what others do under like circumstances, there is at least a possible inference that he is conforming to the community standard of reasonable conduct.”¹⁴⁵ If the municipal water provider complied with the generally accepted Arizona practices and procedures for operating its water system (by complying with the MCL), it should not be held liable. Under the circumstances of this case, any common law duty owed by the municipal water provider should also take into account the fact that the municipal water provider was providing water to the private water company during an emergency water shortage.¹⁴⁶

The plaintiffs in this lawsuit had, in fact, alleged that the municipal water provider was doing just that.¹⁴⁷ Under emergency circumstances, the municipality could argue that supplying the community with water was necessary to avoid a water shortage and justified any risk.¹⁴⁸ Based upon what was known about the private water company at the time, therefore, it was eminently reasonable to believe that the utility of supplying water exceeded the risk of doing so, even if the SDWA MCLs provided no safe harbor to the municipal water provider.

3. Was the Risk of Contracting Primary Amoebic Meningoencephalitis from Exposure to Naegleria Fowleri Unforeseeable?

Significantly, there had never been a recorded incident of primary amoebic meningoencephalitis in the United States attributed to a public drinking water system, much less one dependent on groundwater wells. Each of the defendants, therefore, could argue the deaths were not foreseeable, a necessary requirement of the plaintiffs’ negligence claim.¹⁴⁹

144. *Tellez v. Saban*, 933 P.2d 1233, 1237 (Ariz. Ct. App. 1996) (citing RESTATEMENT (SECOND) OF TORTS § 286 cmt. d).

145. RESTATEMENT (SECOND) OF TORTS § 295A cmt. b.

146. *See id.* § 288A (“An excused violation of a legislative enactment or an administrative regulation is not negligence [when] . . . (d) [an actor] is confronted by an emergency not due to his own misconduct”); *see also id.* § 289 cmt. j (“There may be situations in which the importance of immediate action prevents the risk from being unreasonable, as where an act is done in an emergency which affords no time for investigation and is reasonably necessary for the protection of some valuable interest of the actor or of a third person.”).

147. Fourth Amended Complaint, *supra* note 119, at 15 (alleging that the private water company had not reported “the water emergency which necessitated the interconnection with [the municipal water provider’s] system”).

148. *See id.* § 302A cmt. d (“If the probability of the negligent conduct of another is relatively slight, or if the harm to be expected from it is relatively slight, and the utility of the actor’s conduct is relatively great in proportion, the actor may be entitled to ignore the risk, and proceed on the assumption that others will act in a reasonable manner.”).

149. *See Coburn v. City of Tucson*, 691 P.2d 1078, 1080–82 (Ariz. 1984) (citing RESTATEMENT (SECOND) OF TORTS §§ 284, 289–290 (holding that though the city had a duty

In addition, as comment b to section 289 of the Restatement makes clear, “[n]ot only must the act involve a risk which the actor realizes or should realize, but the risk which is realized or should be realized must be *unreasonable*.”¹⁵⁰ In other words, duty in a given situation is commensurate with the dangers involved. As one case has noted, “[i]t is the *unreasonable* risk of harm which subjects the actor to liability.”¹⁵¹ Thus, one could argue that the plaintiffs would have to show that the municipal water provider knew that (a) there was a risk of *Naegleria fowleri* in its drinking water at infectious levels; and (b) the risk of contracting PAM from the *Naegleria fowleri* was also unreasonably high.

With respect to the evidence, however, the only evidence of the risk of contracting PAM from *Naegleria fowleri* in a drinking water system involved accounts of an unchlorinated surface water system in *Australia*. Was it fair to expect the municipality to have knowledge of that incident? Generally, the common law recognizes that what an actor is required to know is “the qualities, characteristics, and capacities of things and forces in so far as they are matters of common knowledge at the time and *in the community*.”¹⁵² If the existence of an incident in Australia was not sufficient to attribute such knowledge to the municipality, it could be argued that the claim should be dismissed due to the lack of foreseeability.¹⁵³

D. Defenses to the Strict Liability Claims

In the case study, the plaintiffs alleged strict liability under two different theories: (1) that the municipality’s water was a product; and (2) that it had engaged in an ultrahazardous activity.¹⁵⁴ Unlike the doctrine of negligence, which requires that the actor breach some duty of care, strict liability holds a defendant liable regardless of the precautions taken. As long as the actor engaged in the proscribed activity that caused the injury, the actor can be held responsible for the damages that ensue.

1. Was the Municipality’s Water a “Product?”

With respect to the first count of strict liability, the plaintiffs alleged that all of the water utility defendants had delivered a defective “product.” This being a legal determination, the court would decide the issue rather than the jury. But at the time the court made its determination, the decision in *Adel v. Greensprings of*

to keep the streets reasonably safe, that duty depends upon the foreseeability of harm and the city is not bound to provide perfect intersections or streets, but only those which are “reasonably safe”).

150. RESTATEMENT (SECOND) OF TORTS § 289 cmt. b (emphasis added).

151. *Chavez v. Tolleson Elementary Sch. Dist.*, 595 P.2d 1017, 1021 (Ariz. Ct. App. 1979) (emphasis added) (citations omitted).

152. RESTATEMENT (SECOND) OF TORTS § 290 (emphasis added).

153. Defendants could argue that the absence of any MCL or testing requirement for *Naegleria* was further evidence that national agencies such as the U.S. Department of Health Services and the EPA did not consider PAM, associated with exposure to *Naegleria fowleri*, to be a risk associated with the public water system in the United States. *See infra* Part II.IV.

154. Fourth Amended Complaint, *supra* note 119, at 15–16.

Vermont had not been published. The plaintiffs did cite, however, to the recently released Restatement (Third) of Torts, which re-wrote many of the sections addressing product liability claims and defenses. In particular, the plaintiffs cited to the new section of the Restatement that addresses whether electricity, provided by public utilities, constitutes a product.¹⁵⁵ The plaintiffs latched onto those holdings, arguing that water, like electricity, should be considered a “product” once it passes through the customer’s meter.¹⁵⁶

The defendants, however, argued that applying a strict product liability theory would directly contradict decisions in Arizona and other states that uniformly reject the notion that a municipality is a guarantor of the quality of water it delivers, citing *Green v. Ashland Water Co.*¹⁵⁷ Arizona decisions also declare a strong public policy against strict liability.¹⁵⁸

To persuade the court that water should be considered a product, the plaintiffs placed great emphasis on the Texas case *Moody v. City of Galveston*, which, at the time, was the only published case that addressed the issue.¹⁵⁹ Certainly, other cases in Arizona had alleged that water is a product, but without a published decision on the issue, the plaintiffs had no Arizona precedent to support their position.

The lack of precedent, back in 2002, was the plaintiffs’ downfall on the strict liability claims. The court suggested that the existence of only a single case (and that it was from another jurisdiction and involved different circumstances) was insufficient and declined to allow the product liability claim to proceed.¹⁶⁰

2. Was the Municipality Engaged in an “Abnormally Dangerous” Activity?

The plaintiffs further advocated that serving potable water to consumers is an abnormally dangerous activity, especially if the water provider serves unchlorinated water. Similar to the legal question of whether water is a “product,” it was thus necessary for the court to make an initial determination of whether a municipal water provider’s delivery of water constitutes an abnormally dangerous

155. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19 (1998).

156. With respect to the upstream water providers, the characterization of the water as a product only after it passes through the meter presented an obstacle. There was little evidence of the condition of the upstream water being defective before it reached the private company downstream, other than the isolated well test after the incident happened.

157. 77 N.W. 722 (Wis. 1898).

158. See, e.g., *Ramada Inns, Inc. v. Salt River Valley Water Users Ass’n*, 523 P.2d 496, 498–99 (Ariz. 1974) (holding that there was no strict liability for overflow of the Arizona Canal because of the continued utility and necessity of the canal); *Taft v. Ball, Ball & Brosamer, Inc.*, 818 P.2d 158, 160–61 (Ariz. Ct. App. 1991) (holding that there was no strict liability for flooding associated with the Central Arizona Project aqueduct because of the necessity and benefits of the water course).

159. 524 S.W.2d 583 (Tex. App. 1975).

160. The U.S. District Court for the District of Vermont had yet to publish its decision in *Adel v. Greensprings of Vermont*, 363 F. Supp. 2d 692 (D. Vt. 2005). Had this decision been available, it is quite possible that the Arizona court might have decided the issue of product liability differently.

activity.¹⁶¹ In making that determination, both sides briefed sections 520 and 521 of the Restatement (Second) of Torts.

The first factor in section 520 focuses on the “degree of risk” created when one engages in an activity.¹⁶² The defendants argued that the degree of risk must be low because incidents of disease from water contamination are uncommon, and that it would be illogical to call delivery of water “abnormally dangerous” when delivery of gas is not considered to be, citing *Summit Hill Associates v. Knoxville Utilities Board*.¹⁶³ Somewhat related, the second factor required the court to determine whether a municipal water provider’s pumping and transporting water presents a significant likelihood that the resulting harm will be great. But even if *significant injury is likely*, the likelihood of harm must be known to the party *before* engaging in the activity.¹⁶⁴ Since in the present case, there were no prior incidents of *Naegleria fowleri* contamination (and no incidents of sickness tied to a municipal water system), the defendants argued that the second factor did not support strict liability.

Defendants argued the other factors were equally unavailing. With respect to the third factor—the inability to eliminate the risk by the exercise of reasonable care—Arizona holds that an activity is not abnormally dangerous where the exercise of due care can substantially eliminate the risk of harm.¹⁶⁵ Since the plaintiffs’ complaint, in fact, alleged that the water could have been made safe by chlorination, the third factor weighed against it. Section 520(d) concerns the extent to which the activity is not a matter of common usage.¹⁶⁶ Since public water service exists in most communities, defendants could argue the fourth factor does not support water service being an abnormally dangerous activity.¹⁶⁷

In combination, the plaintiffs in this case faced an uphill battle in showing that section 520 of the Restatement (Second) applied to the facts. Even in circumstances where section 520 applies, section 521 provides an exception for activities conducted pursuant to a public duty,¹⁶⁸ such as activities conducted under

161. In the case at hand, the private water company moved early to dismiss the strict liability for abnormally dangerous activity claim before the municipal water utility was added as a defendant and became actively involved in the suit. Initially, the court denied the private water company’s motion, even though the court expressed significant skepticism that the plaintiffs could state such a claim.

162. RESTATEMENT (SECOND) OF TORTS § 520(a) (1977).

163. City of Peoria’s Motion for Judgment on the Pleadings on Count VI: Strict Liability for Abnormally Dangerous Activity and Count VII: Strict Liability for Product Defect at 3, *Luna v. Rose Valley Water Co.*, No. CV2002-024681, (Maricopa County Super. Ct. May 19, 2004) (citing *Summit Hill Assocs. v. Knoxville Utils. Bd.*, 667 S.W.2d 91, 95 (Tenn. Ct. App. 1984)).

164. See, e.g., *Gillette Shoe Co., Inc. v. City of N.Y.*, 447 N.E.2d 38, 40 (N.Y. 1983) (holding that even negligence will not lie where a municipality has no significant warning of the bacteria’s existence and therefore, no duty to conduct tests for bacteria).

165. *Cordova v. Parrett*, 703 P.2d 1228, 1231 (Ariz. Ct. App. 1985).

166. RESTATEMENT (SECOND) OF TORTS § 520(d).

167. See *John T. Arnold Assocs. v. City of Wichita*, 615 P.2d 814, 825–26 (1980) (applying RESTATEMENT (SECOND) OF TORTS § 520 to hold that transporting water through water mains is not an abnormally hazardous activity).

168. RESTATEMENT (SECOND) OF TORTS § 521.

emergency circumstances. The defendants could cite *McCombs v. City of McKeesport*, which had facts virtually identical to the case study, where the City of McKeesport had supplied water through a fire hose during a water emergency.¹⁶⁹ The Pennsylvania court held that the City could not be liable in tort under such circumstances.¹⁷⁰

IV. IMMUNITY ISSUES

Even if common law claims provide a basis for bringing a lawsuit, could the municipality claim that existing state and federal regulatory schemes provide a statutory safe harbor that preempts such claims?

In Arizona, a state statute, section 12-820.08 of the Arizona Revised Statutes, specifically limits personal injury cases where there is compliance with the SDWA.¹⁷¹ Arizona's legislature adopted section 12-820.08 to protect municipalities from such lawsuits by creating a safe harbor extending to other tort liability:

With regard to actions for personal injury arising out of the use or consumption of water, water shall be deemed reasonably safe and fit for consumption and use if it complies with the more stringent of the primary maximum contaminant levels that are established either pursuant to title 49, chapter 2, article 9, or to the safe drinking water act (P.L. 93-523; 83 stat. 1666; 42 United States Code § 201).¹⁷²

Unless an MCL is exceeded, the water is “deemed reasonably safe and fit for consumption and use.”¹⁷³ In the case study, the plaintiffs did not allege that the municipality violated an MCL. The municipality could, therefore, argue that all claims against it must be dismissed.

Arizona, like most states, also has a statute that provides absolute immunity when a municipality engages in a determination of fundamental government policy.¹⁷⁴ Since the complaint alleged that the municipal water provider cross-connected its water during a water “emergency,” and there was no regulatory or contractual obligation to provide water to the plaintiffs, the municipal water provider could also argue that its role was governmental, citing *McCombs v. City of McKeesport*,¹⁷⁵ and that the absence of water posed an obvious potential public health risk that required the municipality to act in its governmental capacity.¹⁷⁶

169. 11 Pa. D. & C.2d 412 (Ct. Com. Pl. 1958).

170. *Id.* at 419.

171. ARIZ. REV. STAT. ANN. § 12-820.08 (2007).

172. *Id.*

173. *Id.*

174. ARIZ. REV. STAT. ANN. § 12-820.01.

175. 11 Pa. D. & C.2d at 418–19 (holding that a municipality was immune from liability for injuries resulting from the municipality's provision of drinking water in an emergency situation because it acted under its police power to protect health and safety).

176. See ARIZ. REV. STAT. ANN. § 12-820.01(B)(1).

V. PUNITIVE DAMAGE ISSUES

Though alleging that a municipality distributed contaminated water with malicious intent seems rather far-fetched, especially when the presence of *Naegleria* was virtually unknown in public drinking water systems, the plaintiffs' complaint in this case study did include a request for punitive damages. To obtain punitive damages in Arizona, a plaintiff must prove that a defendant acted with an "evil mind" and either consciously sought to damage the plaintiff or acted intentionally, knowing that its conduct was likely to cause unjustified, significant damage or injury.¹⁷⁷

Adding to the plaintiffs' burden in this case is an Arizona statute which precludes an award of punitive damages against a municipality. Under section 12-820.04 of the Arizona Revised Statutes, "[n]either a public entity nor a public employee acting within the scope of his employment is liable for punitive or exemplary damages."¹⁷⁸ Without any evidence that the municipal water provider's employees acted outside the scope of their employment, and without any evidence that the municipal water provider or its employees sought to injure the plaintiffs, the likelihood of a punitive damages award in the case study was probably more than remote. Still, if the court allowed the punitive damages claim to go forward, the death of two young boys might persuade a jury to grant it.

VI. LESSONS LEARNED

Even for contaminants that create a risk of injury at far less than one in a million exposures, a water utility faces potential civil liability today even without a SDWA violation. The area of law is developing, and attempts to impose strict liability on municipalities based on the theory that water is a "product" are becoming more likely, especially as consumer expectations continue to increase in combination with scientific awareness of practices that may cause water-borne diseases.

177. Rawlings v. Apodaca, 726 P.2d 565, 578-79 (Ariz. 1986); Beaudry v. Ins. Co. of the W., 50 P.3d 836, 843 (Ariz. Ct. App. 2002).

178. ARIZ. REV. STAT. ANN. § 12-820.04.