Revisiting the Topic of Liability for Damage Due to Water Main Breaks or Leaks
Frank J. Blaha, P.E., Senior Account Manager; Water Research Foundation*; Peter E. Gaewski, P.E., Retired; Paul R. McCary, J.D., Partner, Murtha Cullina LLP; and Graham T. Coates, J.D., Associate, Murtha Cullina LLP

Abstract

The topics of liability and negligence as they relate to water main failures are discussed from both a historical and current viewpoint. The historical perspective is provided in a 1948 Journal AWWA article, and we consider changes in liability issues from that time to the present. Case studies from various states are also presented that will provide water utilities insights into sovereign immunity and what constitutes discretionary function.

Some of the key findings for water utilities were: that they should understand the laws and relevant legal decisions in their state because each state has its own laws related to how immunity is determined; that even immunity, in some states and or cases may not be the final determining factor that can relieve them from liability for breaks and leaks; that they should implement a written policy or plan to address deteriorating infrastructure; and that they should keep accurate and comprehensive records.

1.0 Sovereign Immunity

Common law is the body of law developed in England primarily from judicial decisions based on custom and precedent, unwritten in statute or code, and constituting the basis of the English legal system and of the system in all of the United States except Louisiana.

“Sovereign immunity,” is a key English common law concept in understanding liability associated with government actions. The phrase “the King can do no wrong” embodies the meaning of sovereign immunity that comes from common law and took hold in the United States. As early as the 1821 case of Cohens v. Virginia, 19 U.S. (6 Wheat.) 264, 5 L. Ed. 257, the Supreme Court recognized the sovereign immunity of the United States, and this immunity also applied to state and local governments. However, there was an undercurrent of controversy on this issue. Some thought that the government should not be immune from such liability, but nonetheless, the common law prevailed.

There was at least one interesting exception to sovereign immunity in the common law; however, and that had to do with the provision of water. Under common law, a governmental entity was liable for negligence in the provision of water, if the water provided was done so as a proprietary function. The distinction in common law between the governmental function of furnishing water for fire purposes, for which there was immunity, and the proprietary function of furnishing water to individuals for compensation, in which there was no immunity, can be found in a number of historical legal cases, and was a key point in the 1948 Journal AWWA paper.

During the latter half of the nineteenth century and the first four decades of the twentieth century, bills went before Congress that tried, but failed, to provide a means for the people of the United States to sue the federal government. The passage of the long-
pending Federal Tort Claims Act (FTCA) in 1946 finally allowed citizens to sue the
government. Although the FTCA weakened the concept of sovereign immunity at the
federal level, the FTCA did not completely eliminate federal sovereign immunity and had
no immediate impact on the sovereign immunity at the state, and by extension, the
municipal levels. In particular, there are thirteen exceptions to the FTCA; these
exceptions are instances and circumstances where sovereign immunity still applied. Of
these exceptions, only one is relevant to the discussion of liability associated with water
infrastructure failures, and that is the “discretionary function” exception. Under this
exception, the waiver of immunity does not apply to any claim "based upon the exercise
or performance or the failure to exercise or perform a discretionary function or duty on
the part of a federal agency or an employee of the Government, whether or not the
discretion involved be abused" (28 U.S.C. § 2680[a]). This discretionary function
exception to government tort liability eventually was included in many individual state
tort claim acts and has been a major source of litigation through the years since the FTCA
was enacted.

There are three primary definitions or interpretations of the discretionary function
exception. As identified in the literature, these three interpretations are the semantic
interpretation which tends toward a very broad application of the discretionary function,
the Good Samaritan test which tends toward a very narrow application of the
discretionary function, and the planning-operational interpretation which was initially
developed by the federal courts (Orgill and Toren 1985). In recent cases involving public
water utilities, there have been many decisions in a number of states that rely on the
planning-operational interpretation of the discretionary function exclusion. Under the
planning-operational test, the state’s initial policy decisions and all other authorized
governmental activities that are based upon evaluations of basic policy factors are
considered discretionary, regardless of the level of the governmental decision maker.
These decisions are considered planning level decisions. The planning level notion refers
to decisions involving questions of policy, that is, the evaluation of factors such as the
financial, political, economic, and social effects of a given plan or policy. The
operational level decision, on the other hand, involves decisions relating to the normal
day-by-day operations (also referred to as “ministerial duties”) of government. Decisions
made at this level may involve the exercise of discretion but not the evaluation of policy
factors (Orgill and Toren 1985) and are typically not immune from liability.

1.1 State Interpretations and Actions

Over time, more and more individual states began passing their own acts addressing
sovereign immunity issues at the state level. In some cases the states largely waived any
sovereign immunity, in other cases the states strengthened sovereign immunity
protections or strengthened it in certain circumstances. The state statutes waiving
sovereign immunity are generally of three types: (1) absolute waivers; (2) limited
waivers applicable only to specific types of claims; and (3) general waivers subject to
certain defined exceptions. The first type of statutory scheme absolutely abrogates state
immunity. These statutes generally contain an explicit statement of state liability for the
torts of governmental entities and employees. For example, the state of Washington’s
The statute declares that the state "shall be liable for damages arising out of its tortuous conduct to the same extent as if a private person or corporation". The second type of statutory scheme retains sovereign immunity in general but provides limited waivers of immunity for certain state acts. This second type of waiver provision is best typified by the California Tort Claims Act. The state of Alaska utilizes the third type of statutory scheme, which provides a general waiver of sovereign immunity, subject to certain specified exceptions. Thus, to fully understand potential liability for a water utility, it will be necessary to review the state laws where the utility operates.

The National Conference of State Legislatures (NCSL) prepared an assessment of state sovereign immunity and tort liability. State statutes and constitutional provisions (acts) are presented in Appendix B of a publication on road weather systems (accessible at: http://www.ncsl.org/documents/transportation/Weather_or_Not_Full_Report_Rall_04.30.10.pdf). This publication identifies the acts impacting state immunity/liability, as well as four common categories of exceptions or limits on damages that can be assessed against the state (NCSL 2010). This publication provides a starting point to understand sovereign immunity nuances in any given state. While some states modeled their own state tort claim acts after the FTCA, others developed their own versions including hybrids with the common law concept of governmental and proprietary functions. It should also be noted, that in certain states, municipalities and water authorities do not have the same level of immunity as the state itself.

1.2 The Importance of the “Discretionary Function”

Paradoxically, while the intent of the FTCA was to limit government immunity from lawsuits, for water utilities the “discretionary function” exception which a number of states adopted from the FTCA, may actually have provided additional protection for some utilities. This additional protection against lawsuits is compared with liability that existed for the proprietary function of selling water under common law. Exactly what constitutes a discretionary function is a matter of interpretation. It is not surprising that different states might interpret the discretionary function exception differently. It is surprising that the discretionary function exception has been differently interpreted in court cases of the same state, where more consistent interpretation would be assumed (Orgill and Toren 1985). These uneven interpretations expose many municipal systems to potential liability.

2.0 Negligence

It should be understood that where sovereign immunity applies – whether based on the discretionary nature of the act or any other element of state law - the issue of negligence will never be addressed. The application of sovereign immunity insulates the utility from liability even if it was negligent. But where sovereign immunity does not apply, such as in Washington or any other state where the application of statutes or case law to the facts at hand render the doctrine inapplicable, most cases will turn on the concept of negligence. Negligence is typically considered to be the failure to take reasonably prudent actions, but this term is further defined in section 2.1 of this paper.
The case studies we reviewed typically find negligence in the lack of certain actions or information. Examples include: untimely response or no response to a leak or break, lack of a plan to address deteriorating infrastructure, failure to follow standard procedures or established standards, lack of consideration of importance of different events in the system, lack of data upon which to base a decision to take one action over another, lack of standard operations and maintenance procedures, etc.

Another aspect of negligence is *res ipsa loquitur*, Latin for "the thing speaks for itself," a doctrine of law that one is presumed to be negligent if he/she/it had exclusive control of whatever caused the injury even though there is no specific evidence of an act of negligence, and without negligence the accident would not have happened. Courts in certain states have held that the doctrine of *res ipsa loquitur* has been applicable in general to broken water main cases, while other states refuse to apply it.

An example of instructions to a jury in states that do apply *res ipsa loquitur* might be as follows: “The mere fact that the water main broke does not by itself necessarily prove that defendant was negligent. However, you the jury, may find the defendant was negligent if you find it more likely than not that the water main break in this case was the kind of event that would not ordinarily be expected to happen unless defendant was negligent in some manner, even if you cannot determine the precise cause of the break or the precise nature of the negligence. If you decide that the above is true, you are permitted, but not required, to conclude that it was more likely than not that the defendant was negligent.”

In the discussion of buried infrastructure failures, the question might arise as to what standards of care are common within the industry right now? Many major studies dating back to the 1980s (Choate and Walter 1983) have called attention to the issue of deteriorating water and wastewater buried infrastructure, including a number of studies from the American Society of Civil Engineers, the American Water Works Association, the US Environmental Protection Agency, and the Water Research Foundation, amongst others. These reports have called attention to the need to re-invest in this deteriorating infrastructure. Studies dating back even further address the issue of prediction and prevention of pipe failures, and that for metallic pipe a significant cause of failures is corrosion. Given this backdrop of knowledge and information, utilities should be well-aware that most pipe failures are the result of environmental stresses experienced by the pipe, and the interaction of that given pipe, in its given location, with that environment. On the other hand, while it is possible to understand and better predict where pipes might fail, our technologies and techniques are not sufficient, and we expect may never be sufficient, to predict and prevent all failures. A utility should be prepared to demonstrate an adequate standard of care in managing their buried assets, considering such things as the available standards, guidance, general industry practice, leakage management, and evolving technologies and techniques that help identify the general condition of buried assets. In addition, the utility experience must also be brought to bear, as well as consideration of the types of pipes being managed and their failure mechanisms.
2.1 The New Normal to Avoid Negligence

Once the critical threshold of sovereign immunity is breeched because the utility’s conduct falls into a statutory or common law exception to the doctrine, any act (or omission) that is determined negligent (and to have caused the plaintiff’s damages) will expose a municipal corporation to liability. While the application of sovereign immunity is usually a matter of law to be determined by a judge, negligence will often be a matter of fact, left to the jury (or, in some cases, to a judge acting as a finder of fact). Unlike the sovereign immunity inquiry, the negligence test is based chiefly on facts. And the standard is one of reasonableness. If the actions (or omissions) of a water utility are found to be unreasonable in light of all the extant circumstances, the utility will be held liable.

The *Restatement, Second, of Torts* defines negligence as “conduct which falls below the standard established by law for the protection of others against unreasonable risk of harm.” (*Restatement (Second) of Torts* § 282 (1965)). While many different legal standards can be applied to further define reasonableness, one often employed in negligence cases is to review standard industry practice and custom. “In determining whether conduct is negligent, the customs of the community, or of others under like circumstances, are factors to be taken into account, but are not controlling where a reasonable man would not follow them.” (*Restatement (Second) of Torts* § 295A (1965)). As identified by the Restatement, while evidence of an industry standard is not dispositive, it is “often highly probative when defining a standard of care.” (57A Am. Jur. 2d Negligence § 172). If a party has failed to follow or has otherwise deviated from the practices standard in the industry, and those practices tend to prevent against similar harm, evidence of such deviation is more likely to sway a jury of the existence of negligence.

In short, evidence that the defendant water utility failed to follow common industry practice can open the door to a finding of negligence. Recent, widespread use in the water industry of underground infrastructure system assessment studies that identify characteristics tending to indicate weakened infrastructure (and potential sources of leaks or breaks) provides exactly that type of evidence.

Over the past decade, many investor-owned utilities have implemented extensive repair and replacement programs designed to address the threat posed by aging water infrastructure. Currently 11 states, including California, Delaware, Illinois, Indiana, Missouri, New Hampshire, New Jersey, New York, Ohio, Pennsylvania and Connecticut, have implemented regulatory mechanisms which allow more timely recovery of water infrastructure repair and replacement expenses (NAWC 2014). These regulatory mechanisms are explicitly designed to encourage utilities to make additional investments in system assessment and replacement on a systematic basis. Because investor-owned utilities are accountable to regulators to make only prudent expenditures, utilities taking advantage of the new regulatory mechanisms typically rely on thorough engineering studies to support the pace and focus of their main replacement programs. Thus the past several years has seen a large increase in the body of technical knowledge regarding the impact of pipe material, age, installation techniques, soil conditions and similar factors on the likely main failure rate. As such studies become more common,
and the accuracy and comprehensiveness of such studies increases, many governmental municipal water utilities, on their own initiative, have undertaken similar programs designed to systematically identify and replace weakened infrastructure.

The knowledge gained from performing these studies allows water utilities to identify and put in place a systematic repair and replacement program. Common in these programs are intensive system-wide studies developed to determine weak or failure-prone areas and prioritize repair projects. Those areas determined to be prone to failure are placed first in line to be repaired or replaced with new main. This system assessment and project prioritization is followed with a substantial increase in investment in repair and replacement of aging system infrastructure. The engineering science strongly suggests that these programs can avoid leaks or breaks that would have otherwise occurred.

What does this mean for water utilities that don’t conduct system assessments? It means that failing to conduct similar assessments may be used as evidence of negligence in main break cases. In the negligence context, a water utility that has employed a systematic system assessment and replacement program is far more likely to be found to have taken reasonable steps to prevent main breaks than a water utility that has not implemented such programs. For easily swayed juries, a water utility’s lack of an infrastructure assessment and replacement program may prove to be enough evidence to convince a jury of the utility’s negligence.

Even if the implementation of system assessment studies is found not to be industry custom, a water utility may still be found negligent in failing to conduct such a study. A classic negligence case often found in law-school text books, *The T.J. Hooper*, 60 F.2d 737 (2d Cir. 1932) demonstrates that even absent industry custom, parties may still be held negligent for failing to utilize cost-effective and well-known measures recognized to mitigate harm. In *The T.J. Hooper*, a tugboat T.J. Hooper was towing barges between cities on the open Atlantic. The tug was caught by a gale and the barge it was towing was lost. Had the T.J. Hooper been equipped with a radio, the tug could have easily received warning of the impending storm and returned safely to shore with its cargo. Judge Learned Hand found the tugboat operator negligent, reasoning that the benefits associated with carrying radio sets was widely known and that they could be installed with little trouble or expense. Accordingly, he determined the absence of such devices constituted negligence, despite the fact that carrying radios was not the custom at the time in the tugboat industry.

As system assessments become commonplace in the water utility industry, even if they have not yet become the universal industry standard, it’s easy to see how a judge or jury could find that water system assessments are a cost-effective and proven method to mitigate the risk damage caused by water infrastructure failures.

To summarize the negligence analysis, the availability of sovereign immunity is uneven, being highly dependent upon varying state statutes and the evolving common law in each state. Even within a single state, the application of the doctrine to similar facts does not always lead to reliable, consistent outcomes. The best defense to a negligence claim is being able to prove that the defendant utility had followed best industry practices in
studying its underground infrastructure, developing a plan to systematically replace that infrastructure and then implementing that plan.

2.2 Best Industry Practices

We have found that having and implementing a plan to manage buried water utility assets is a benefit in demonstrating good management and is the best defense to a negligence claim. While it will never be possible to prevent all breaks, pipe breaks can be minimized. Utilities should follow established AWWA standards in the design of planned improvements, renewals, or expansions of their systems. In addition to carefully following standards, it is also important to ensure adequate construction inspection since poor handling or installation of otherwise good materials can result in pre-mature failures. For instance, it is suspected that catastrophic bell-blowouts of cast iron pipe may have been caused by rough handling of that pipe at the construction site.

A recent WaterRF project on ductile iron pipe longevity found that thicker class pipe will last many decades longer than thinner class pipe in corrosive soils when unprotected by polyethylene encasement. Utilities should consider polyethylene encasement of the pipe for protection from external corrosion in all situations. Installation of polyethylene encasement and repairs of encasement for subsequent service taps must strictly follow AWWA installation standards. Some utilities require double polyethylene encasement. Some utilities use cathodic protection to mitigate exterior pipe corrosion. Many water utilities specify a double layer of cement lining on the interior of ductile iron mains for enhanced protection from internal corrosion. Utilities are increasingly interested in the use of controlled low strength materials (CLSM) as backfill materials due to advantages in the use of these materials, particularly in extremely crowded urban corridors, seismically active areas, and areas with “bad” soils. The use of CLSM materials can substantially add to the robustness of system design by providing better pipe support and better engineered and more predictable characteristics of the backfill materials.

The impact of native soils and local climatic conditions on breaks can be considerable, but little can be done to change these variables. Preparing for predictable situations becomes even more important – bringing us back to the issue of planning. The plan should include system designs to be resilient to local conditions. The plan should also include careful recording of locations and numbers, as well as types, of breaks. These data are used to identify “hotspots” where local conditions are stressing the pipe. These “hotspots” could be caused by many factors. Some of the key factors include corrosion potential associated with the soil, construction issues, defects of specific pipe cohorts, shrink/swell potential of the soil, inadequate depth of cover over the pipe which can lead to more impact from traffic loading and more impact from frost pressure on the pipe. Other factors include stray electrical currents, areas of recurring wet/dry cycles, and areas of unstable soils such as steep slopes or seismically active areas. Sudden changes in water temperature, either cold or warm, result in stress to the more constant temperature buried pipe and can result in increased break rates. This can occur when: lake source water has annual turnover; sources are changed from surface to groundwater, and vice versa; there is a severe cold snap or heat wave that alters the temperature of water in above-ground water storage tanks that return water to the buried pipes. In areas subject to
soil penetrating frost, more than half of all annual breaks can occur during the cold winter months.

A buried asset management is still an evolving concept for the United States, where there are no regulatory requirements for such a system. However, other countries do have specific requirements for asset management systems. While a lot has been written about asset management systems for the US, widely varying plans and approaches can all be appropriate. There is no one correct way to approach asset management. There are; however, some common elements that should be considered in such plans. First and foremost, an asset management plan is a risk management plan. In conducting asset management, utilities are trying to use data and system information to better manage their assets for either minimum cost or maximum life while reducing risk and meeting their operational “levels of service” goals.

For pipe, some of the key asset management data and considerations that should be captured and managed are: year of installation, material, diameter, soil conditions, history of breaks on given sections of main, quality of water conveyed, groundwater and soil moisture quality (salty, brackish, sulfate content), manufacturing defects, coordination with road work or other utility work, and an analysis of critical components in the transmission and distribution system. Some considerations for critical component identification include: non-redundant pipes that serve major populations or critical customers (hospitals, schools, breweries, etc.), important pipes in areas subject to unusual circumstances such as hung under a bridge over an interstate highway, a river crossing, un-sleeved pipes passing under major arterial roads or railroads, pipes in highly developed and congested areas, pipes in seismically active areas and in soil liquefaction areas, pipes in the central business district of cities, and the larger transmission mains of the system.

Typically the goal of asset management planning is to prevent all breaks and leaks on a critical pipe. However, non-critical pipes in the system can typically be managed through the use of break statistics associated with that pipe, based on a long-term record (at least ten years) of break and leak type and location. System hydraulic analyses and critical valve analyses improve asset management. Economic analyses, aka business case analyses, of identified potential pipe renewal projects enhance asset management efforts. Some of the more practical and appropriate asset management guidance documents are the International Infrastructure Management Manual and the AMWA 2007 “Implementing Asset Management: A Practical Guide. A list of other basic and practical considerations for utility asset management can be found in a Water Research Foundation Fact Sheet, “An Overview of Major Issues in Asset Management” (WaterRF, 2012).

3.0 Case Studies in Applying Immunity

3.1 North Dakota, City of Fargo

In a North Dakota appeal from a 2006 District Court case, residents claimed that the City of Fargo was negligent in maintaining the water main in the street adjacent to their house.
The 1950 unlined 8-inch diameter cast iron main failed and caused flooding damage to the house foundation, sidewalk and fence. Fargo Public Works stated that cast iron water mains deteriorate over time because soil corrosion will reduce the thickness of the water main’s outside wall. The wall deteriorates until a break occurs. Public Works contended no maintenance or repair procedure would have prevented the break that damaged the resident’s property (Justia 2013a).

The City's water main replacement policy seeks to replace the worst areas first. The worst areas are found by first monitoring the number of breaks in a particular area. The policy examines factors such as breaks per city block, recent break history, and the age and type of water main. The policy had resulted in a significant reduction of water main breaks, with the City replacing four to six miles of water main per year (Justia 2013a).

As part of the water main maintenance plan, the City has developed a policy to help decide when it should replace a water main. The District Court found that regarding day-to-day maintenance, the City presented undisputed evidence that no normal procedure can prevent all water main breaks and leaks. The City's maintenance program balances economic and social costs and benefits such as cost of replacement, street conditions, the public's disruption, and the public's cost to find the most appropriate time to replace mains. The District Court found the City exercises its judgment when deciding what mains to replace. This operation and maintenance is the kind of function that discretionary immunity is designed to shield from second-guessing. The District Court ruled that discretionary immunity barred the resident’s negligence claim and decided in favor of the City. (Justia 2013a).

3.2 Ohio, East Cleveland Water Department

In December, 2007 an Ohio homeowner filed a complaint against the East Cleveland Water Department (the City). This complaint stated that the City negligently damaged the exterior shut off valve and water pipe leading to the homeowner’s property and caused extensive water damage to the house foundation, basement and yard. The case proceeded to a jury trial, at the close of which the City claimed it was immune from liability under Ohio law. The trial court granted the motion and the homeowner appealed to the Ohio Court of Appeals (Justia 2013b).

Two out of the three appeals court judges ruled in favor of the City’s claim of immunity from liability under Ohio law. They ruled that in this case, employees of the Water Department exercised their discretion in deciding how to perform the repair and connection of the water line and in their selection of the equipment and materials used. Because the employees exercised discretionary judgment in determining how to use materials and equipment, and there was a lack of malicious purpose, bad faith, or wanton reckless conduct, the City is entitled to immunity under Ohio law (Justia 2013b).

The dissenting judge said that shutting the water off to the homeowner’s house and installing a new pipe are acts of routine maintenance that water department workers commonly perform, are not decisions involving discretionary judgments, and are therefore not entitled to immunity. (Justia, 2013b).
3.3 Utah, Jordan Valley Water Conservancy District

In November 2005, a section of 1957 cast iron water main (the Section) failed within the Jordan Valley Water Conservatory District in Utah (the District). This main had failed seven times in the five years leading up to this break. The November 2005 failure resulted in flooding of a house and personal property. In 2002 the District had identified the main that failed, along with a number of other pipe sections (Identified Pipe), to be in need of replacement. The District maintained that it was financially impossible to replace all of the Identified Pipe in a single year. The District had adopted procedures to prioritize the replacement of Identified Pipe according to various factors affecting need, cost and convenience, and to recommend which pipe should be replaced in any given year. Based on the application of those factors, District Representatives decided that the Section of main in question not make the list for replacement until 2006 (Justia 2013c).

In October 2006, the District began the process of main replacement by installing new pipe parallel to the existing cast iron main. The project was coordinated with other needed road work. During this process, the existing cast iron main failed again in the same general location as the November 2005 break. This October 2006 break also flooded the same house, causing additional damage. Although the District provided some financial assistance to the homeowner after the 2005 break, the homeowner claimed they were not fully compensated for the 2005 break, and that the District refused to pay any amounts in connection with the 2006 break. The homeowner filed suit against the District. After the trial court granted summary judgment in favor of the District, the homeowner appealed the case to the Utah Court of Appeals (Justia 2013c).

The District contended that their main replacement decisions were a discretionary function for which the District is immune from suit under the Governmental Immunity Act of Utah (GIAU). The Appeals Court described a brief history of Utah governmental immunity leading to the GIAU. At common law, a governmental entity was not immune from liability for its negligence in the provision of water. In a 1928 case the Utah Supreme Court distinguished between governmental functions (furnishing water for fire purposes) and proprietary functions (furnishing water to individuals for compensation) in determining whether a government entity could be held liable for negligence related to the provision of water. In 1965, the Utah Legislature adopted the Utah Governmental Immunity Act, which was subsequently amended (1987) and reenacted as the GIAU (2004). The GIAU includes a discretionary function exception. (Justia 2013c)

The appeals court found that although the District’s actions fell within the scope of the statutory immunity afforded government entities, the current definition of “governmental function” resulted in a complete abrogation of the homeowner’s preexisting remedy and violated the Utah Constitution’s open courts clause. The Court of Appeals remanded the case to the trial court for further proceedings consistent with the Appeals Court decision (Justia 2013c).
3.4 California, San Jose Water Company

In a 1995 California case, a jury found the investor-owned San Jose Water Company (Water Company) negligent for a leak that developed on a fire service lateral that provided fire protection to a private company’s (Private Company) building. The leak had damaged files in the basement of the building and damages of $3 million were awarded (Justia 2013d).

The Water Company appealed to the Superior Court of Santa Clara County in 1997. On appeal, the Water Company argued that they were immune from liability for all of the Private Company’s claims pursuant to the 1972 Public Utilities Code section 774 (Section 774) (Justia 2013d).

According to the Superior Court, Section 774 provides: "No water corporation which has undertaken to provide fire protection service, nor any employee of such corporation acting in the course and scope of his employment, shall be liable for any death or injury to a person or damage to or loss of property resulting from a failure to provide or maintain an adequate water supply or pressure, or any equipment or other fire protection facility or service; provided, that such immunity from liability shall not exceed that of a public agency or any of its employees, as the case may be, under similar circumstances. Nothing in this section shall preclude the enforcement of any rule, regulation, or order of the commission." (Justia 2013d)

The pertinent section of the California Government Code dealing with public fire protection provides: "Neither a public entity that has undertaken to provide fire protection service, nor an employee of such a public entity, is liable for any injury resulting from the failure to provide or maintain sufficient personnel, equipment or other fire protection facilities." The Code also says "Neither a public entity, nor a public employee acting in the scope of his employment, is liable for any injury resulting from the condition of fire protection or firefighting equipment or facilities…” The California Government Code was enacted in 1963 to reinstate and create certain immunities for public entities. The Legislature recognized that public entities provided certain essential services for which they should not shoulder the expense of tort liability, and expressly provided public entities with immunity in these areas (Justia 2013d).

The Private Company contended that both public and private water utilities had always been liable for damage caused by leaking pipes, citing a number of cases. The Superior Court disagreed with the Private Company’s contention and said that those cases did not discuss fire protection pipes, but rather appeared to have involved regular water pipes, supplying water for ordinary purposes. (16 Cal. 2d at p. 505; 111 Cal.App. at p. 328 [water main "through which it distributed water to its consumers"].) The Superior Court added that those cases did not address the issue of damages caused by fire service pipes (Justia 2013d).

In Conclusion, the Superior court found that because section 774 confers immunity on water corporations for the condition of fire protection equipment, the Water Company was immune from the claims, and reversed the 1995 judgment. (Justia 2013d).
4.0 Summary

The 1948 Journal AWWA paper provided the following conclusions:

*It is therefore recommended that the municipality or public water supply commission keep accurate and comprehensive records enabling it, if necessary, to show in court that it has fulfilled its responsibilities by exercising due care and taking quick action after being notified of defects.* (Ohland et al 1948)

These suggestions and conclusions are still excellent advice today, and are perhaps even more important now given the complexity of the laws that surround this area of practice and the previous legal decisions made. Technological improvements in water utility records since 1948 include supervisory control and data acquisition (SCADA) systems, geographic information systems (GIS), and high speed pressure data recorders that can show water hammer and pressure loss incidents. All of these data and records may become important evidence in a court case.

It is clear that once a case goes to court almost any conclusion can be reached. Thus, it behooves any utility to understand the laws and relevant legal decisions of their state in developing an appropriate risk management plan for buried infrastructure. Even in states where sovereign immunity is a strong defense for municipal utilities, they may still be judged responsible for costs associated with failures in certain instances. At least in the United States, the concept of sovereign immunity does not always insulate a municipal water utility from liability.

The key new development since the 1948 paper is the need to have a policy or plan (plan) to address deteriorating infrastructure. There was no mention in that earlier paper of a need for a plan to address buried infrastructure. One simply needed to be diligent and respond to known problems. The court decisions that we found in the literature did not paint a clear and consistent picture of when and where a municipality might be held liable for damages associated with pipe failures, or judged negligent. However, it was clear that a responsive utility, and especially one with a plan to address deteriorating infrastructure, was in a much better position to either invoke the sovereign immunity exclusion due to the discretionary exception or to demonstrate appropriate due diligence and avoid being considered “negligent.”

Clearly, implementing a well-thought out and justified plan will be better for the utility if a failure occurs. The plan should be specific on how deteriorating infrastructure is being managed and what the key drivers are behind utility actions. The plan should identify the key data needed and the primary decision criteria for determining which pipes are renewed and when. The plan should consider and include common understanding of pipe performance and risk mitigation techniques: for instance, known bad-acting pipe cohorts and known periods of pipe manufacturing defects should be considered, as should other operation considerations such as valve exercising and maintenance. This plan should stay up-to-date with evolving condition assessment techniques and industry knowledge.
At this time, a plan to address maintenance and replacement of buried and deteriorating infrastructure is not a requirement in the US; however, it is highly desirable and strongly urged. Implementing a sound plan probably provides the best protection against potential liability damage caused by main breaks.

While we had wondered if a trend would be apparent making the application of evolving condition assessment technologies a clear benefit or liability, we did not find enough case studies where such technologies played a key role to form a strong recommendation. However, we did see a clear indication that those utilities with buried asset management plans were in a much stronger position when failures occurred to demonstrate due diligence in management of their assets. Given that the application of condition assessment technologies are a growing aspect of buried asset management plans, it appears to us that the judicious use of these technologies may be a growing area of focus in future decisions regarding liability for failures. In addition, main failure prediction models that use statistical methods are becoming more common place. We can envision a time in the future when the lack of application of such technology and models could be judged to be an aspect of poor management of deteriorating infrastructure. We think that even now the standard of care with regard to pre-stressed concrete cylinder pipe (PCCP) pipe is that some type of condition assessment program should be in place, appropriate for the utility and its pipe and conditions. Condition assessment technologies and techniques are still evolving for other common pipe types, especially cast and ductile iron. It seems that appropriate technologies and techniques will evolve rapidly, probably significantly increasing our ability to assess the condition of other pipe types in the coming years. These condition assessment technologies may become the industry standard going forward, and this may influence the concept of negligence when these industry standards are not employed.

At a minimum, water utilities should have a multi-year record of leaks and breaks throughout their system, and review and assess these data for an understanding of failure patterns useful in identifying areas of possible future failures. In addition, utilities should have some type of leakage management program.

In the 1948 paper the authors also suggested that:

Too much emphasis cannot be placed upon the determination of the causes of leaks, large or small. Not only is it important to determine these causes in order to devise ways and means to reduce and prevent the occurrence of leaks, but it is always necessary to establish or assume liability in order to obtain funds for repairs.

(Ohland, et al, 1948)

This advice from 1948 still holds true today, although now impacted by some new technologies and techniques. Basic acoustic leak detection techniques have been available for decades, but in recent years considerable advancements have been made in leak detection technologies including computerized analysis of acoustic data (USEPA 2012), and new leak detection management programs documented in new manuals of practice (AWWA 2009).
5.0 References


