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Lead Poisoning in Children: A Proposed Legislative Solution to Municipal Liability for Furnishing Lead-Contaminated Water

Lead poisoning has become one of the most widespread and serious environmental diseases facing children in the United States.¹ Childhood lead exposure, even at low levels, can cause several neurological and behavioral effects such as decreased I.Q. and reading ability.² At higher levels, lead intoxication can cause more serious problems, and even death.³ The Environmental Protection Agency ("EPA") estimates that lead-contaminated drinking water has lowered the I.Q.'s of over twenty-three million children.⁴ Drinking water also poses the risk of acute lead poisoning, particularly in infants whose formula has been mixed with lead-contaminated water.⁵

In response to the problem of childhood lead exposure, the EPA has promulgated expansive regulations to reduce drinking water lead levels.⁶ Recognizing the health problems posed by lead and other chemicals in drinking water, Senator John Chafee referred to these regulations as "serious business" and "not some flighty effort by a bunch of tree-huggers over at EPA."⁷ The regulations *are* serious business, and they place a substantial financial burden on public water systems to get the lead out of water.⁸ However, the regulations are not without significant gaps and shortfalls. Many improvements that the EPA requires need not be

1 James O. Mason, *From the Assistant Secretary for Health, U.S. Public Health Service*, 265 JAMA 2049 (1991).

2 See *infra* notes 20-25 and accompanying text.

3 *Id.*

4 *Lead Poisoning: Hearing on H.R. 2840 Before the Subcomm. on Health and the Env't of the House Comm. on Energy and Commerce*, 102d Cong., 1st Sess. (1991) [hereinafter *Hearings on Lead Poisoning*] (testimony of Erik D. Olson on behalf of the National Wildlife Federation, Natural Resources Defense Council, and Friends of the Earth; citing EPA OFFICE OF DRINKING WATER, FINAL REGULATORY IMPACT ANALYSIS OF NATIONAL PRIMARY DRINKING WATER REGULATIONS FOR LEAD AND COPPER 5-44 (1991)).

5 Michael W. Shannon & John W. Graef, *Lead Intoxication in Infancy*, 89 PEDIATRICS 87 (1992); see also *Hearings on Lead Poisoning, supra* note 4, at 10 (testimony of John W. Graef on behalf of American Academy of Pediatrics).

6 See *infra* Part II.

7 *Senate Approves \$6.97 Billion 1993 EPA Budget, Would Give \$2.65 Billion to Sewage Grants, Loans*, 23 Env't Rep. (BNA) 1403 (Sept. 18, 1992).

8 See *infra* notes 197-99 and accompanying text.

in place for years, and some households at risk of unsafe lead exposure receive no regulatory protection at all.⁹ One question that arises amidst these regulatory gaps is whether a plaintiff can hold a public water system liable in tort or contract for physical harm resulting from lead-contaminated drinking water.

This question is not just hypothetical. A case is now pending in Indiana against a public water system for furnishing drinking water with unsafe levels of lead. A complaint has been filed in state court against the city of Mishawaka, Indiana, and Mishawaka Utilities seeking damages for physical and mental injuries allegedly suffered by a one-year-old child exposed to lead-contaminated water furnished by the defendants.¹⁰ The plaintiff alleges causes of action in negligence, failure to warn, breach of warranty, and strict liability.¹¹

Several cases have considered a public water system's liability for harm caused by the water it furnished. Many of these cases are relatively old, dating as far back as 1912, but courts today still cite some of them as relevant authority.¹² Although a plaintiff who seeks relief against a public water system faces several obstacles, courts have held water systems liable for physical harm and property damage caused by the water they furnished.¹³

At a time of widespread dissatisfaction with "tasseled loafers" and the tort system in general,¹⁴ this is one area where effective legislation to protect children from lead in drinking water could prevent unnecessary, uncertain, and tragic litigation. Although drinking water is one of the most widespread sources of childhood lead exposure, lead poisoning can be traced directly to drinking water only in some acute cases. Rather than wait to see if the courts will provide monetary damages to the most serious victims of lead poisoning, this Note suggests a legislative solution to eliminate the need for litigation and protect all households at risk of lead exposure from unsafe drinking water.

Part I explores the problem of childhood lead exposure, particularly from contaminated drinking water. A brief examination of

9 See *infra* notes 64-68, 83 and accompanying text.

10 Complaint, *Arnold v. Waterson*, (St. Joseph County Super. Ct. (Ind.) Jan. 28, 1993) (No. 71-9301) [hereinafter *Complaint*].

11 *Id.*

12 See *infra* notes 121, 142, 145 and accompanying text.

13 See *infra* Part III.

14 See, e.g., Sandra Torry, *Tassels, Torts and Easy Targets: Bush Comments Worry Lawyers*, WASH. POST, Aug. 31, 1992, at F5.

the existing EPA Lead and Copper Rule¹⁵ in Part II demonstrates that some households are left unprotected and are thus more likely to raise future claims against public water systems. Part III examines the obstacles that face plaintiffs suing public water systems and the applicable theories of liability, particularly failure to warn. Finally, in Part IV, this Note proposes an amendment to the Safe Drinking Water Act¹⁶ to lend some protection to all households at risk of unsafe lead exposure and to eliminate the problems of litigation that face both consumers and water systems.

I. THE PROBLEM OF EXPOSURE TO LEAD

A. *Childhood Lead Intoxication*

The American Academy of Pediatrics has called lead poisoning the number one environmental threat to the health of children.¹⁷ The adverse effects of lead on children's health have been extensively documented and presented in hearings before Congress regarding federal regulations to reduce exposure to lead.¹⁸ Although exposure to high levels of lead can cause serious health problems in adults as well as children, infants and young children are most susceptible to the adverse effects of lead, even at low doses, because their bodies accumulate more lead and are more vulnerable to certain toxic effects of lead.¹⁹

Research indicates that lead in children's blood, particularly infants and young children, can cause numerous toxic effects, including decreased I.Q., reduced attention span, and impaired verbal and auditory capacity.²⁰ The tragedy of lead intoxication is

15 Lead and Copper Rule, 40 C.F.R. § 141.80-91 (1992).

16 42 U.S.C. §§ 300f to 300j-25 (1988).

17 American Academy of Pediatrics, *Statement on Childhood Lead Poisoning*, 79 PEDIATRICS 457 (1987).

18 *Hearings on Lead Poisoning*, *supra* note 4; *Lead Poisoning (Part 2): Hearing on Impacts of Lead Poisoning on Low-Income and Minority Communities Before the Subcomm. on Health and the Env't of the House Comm. on Energy and Commerce*, 102d Cong., 2d Sess. (1992) [hereinafter *Hearings on Lead Poisoning (Part 2)*].

19 See U.S. Centers for Disease Control, *Childhood Lead Poisoning—United States: Report to the Congress by the Agency for Toxic Substances and Disease Registry*, 260 JAMA 1523 (1988); *Hearings on Lead Poisoning (Part 2)*, *supra* note 18, at 34 (testimony of John H. Adams, Executive Director, Natural Resources Defense Council).

20 See Herbert L. Needleman & Constantine A. Gatsonis, *Low Level Lead Exposure and the I.Q. of Children: A Meta-Analysis of Modern Studies*, 263 JAMA 673 (1990); Herbert L. Needleman et al., *The Long-Term Effects of Exposure to Low Doses of Lead in Childhood: An 11-Year Followup Report*, 322 NEW ENG. J. MED. 83 (1990). For a summary of the research on the effect of childhood lead exposure on I.Q.'s, see Philip J. Landrigan & John W.

that these neurological and behavioral effects are permanent and irreversible.²¹ One study demonstrated that higher lead levels in children were associated with lower class rank, increased absence from school, and lower reading scores.²² At higher doses, lead exposure can result in decreased stature, anemia, and even death.²³ Another concern is the exposure to lead of women of childbearing age. Lead is transferred directly across the placenta, exposing an unborn child to lead levels proportional to maternal lead stores.²⁴ In unborn children, lead can interfere with red blood cell formation, reduce birth weight, and cause premature birth.²⁵

EPA estimates suggest that blood lead levels in children have decreased over the last decade. According to the EPA, during the period from 1976 to 1980, 10.7 percent of children in the United States under six years of age had blood lead levels of more than 25 micrograms of lead per deciliter of blood and 91 percent had levels of more than 10 micrograms per deciliter; in 1990, 1 percent had levels of more than 25 micrograms per deciliter and 15 percent had levels higher than 10 micrograms per deciliter.²⁶ Exposure to lead, however, is now causing health problems at levels once thought to be safe. The Centers for Disease Control ("CDC") now defines lead poisoning as 10 micrograms per deciliter, down from the previous 25 micrograms per deciliter established in 1985.²⁷

Some studies also suggest that lead poisoning has had a greater impact on low-income and minority communities. For example, in 1988, the CDC reported that 68 percent of low-income, urban

Graef, *Pediatric Lead Poisoning in 1987: The Silent Epidemic Continues*, 79 PEDIATRICS 582 (1987).

21 See Landrigan & Graef, *supra* note 20, at 583.

22 Needleman et al., *supra* note 20, at 85. The study also demonstrated that higher lead levels were associated with lower scores on vocabulary and grammatical-reasoning tests, slower finger-tapping speed, longer reaction times, and poorer eye-hand coordination. *Id.*

23 For a summary of the effects of lead exposure and initiatives and recommendations to prevent childhood lead poisoning, see Jody W. Zylke, *Preventive Medicine's Latest Goal: Getting Lead Out to Protect Children*, 266 JAMA 315 (1991).

24 U.S. Centers for Disease Control, *supra* note 19, at 1523.

25 For a broad overview of the health effects of lead exposure and the federal regulations of lead in drinking water, see *130 Cities Exceed Lead Levels for Drinking Water*, ENVTL. NEWS (EPA), Oct. 20, 1992 [hereinafter *Cities Exceed Lead Levels*].

26 *Id.* at 3.

27 U.S. CENTERS FOR DISEASE CONTROL, PREVENTING LEAD POISONING IN YOUNG CHILDREN (1991).

African-American children had blood lead levels in excess of 15 micrograms per deciliter, compared to 36 percent of low-income, urban white children.²⁸

Some major sources of lead, leaded gasoline for example, have largely been eliminated, thereby reducing lead levels in the nation's air, water, and land.²⁹ The remaining sources of lead, however, have proven to be more difficult and expensive to eliminate.³⁰

B. *Exposure to Lead in Drinking Water*

The greatest sources of lead exposure for children include lead-based paint, contaminated soil, and dust.³¹ The EPA estimates that lead in drinking water contributes only 10 to 20 percent of the total lead exposure of young children.³² Although drinking water is a relatively small source of childhood lead exposure, the EPA suggests that it is one of the most widespread. In a 1991 study, the EPA estimated that lead in drinking water has decreased the I.Q.'s of over twenty-three million children.³³ EPA scientists further estimate that in the 1990s lead-contaminated drinking water will account for about 50 percent of average national lead exposures and blood lead levels.³⁴ In some circumstances, drinking water contamination can be the primary source of lead intoxication. For example, high levels of lead in drinking water pose the risk of acute lead poisoning to infants whose formula is mixed with lead-contaminated water. One study traced cases of lead intoxication in infants directly to the preparation of infant formula with lead-contaminated water.³⁵ In those cases,

28 See *Hearings on Lead Poisoning (Part 2)*, *supra* note 18, at 25 (testimony of John H. Adams, Executive Director, Natural Resources Defense Council; citing U.S. CENTERS FOR DISEASE CONTROL, *THE NATURE AND EXTENT OF LEAD POISONING IN CHILDREN IN THE UNITED STATES: A REPORT TO CONGRESS*, at V-7 (1988)).

29 U.S. Centers for Disease Control, *supra* note 19, at 1529.

30 *Id.* at 1533.

31 See Mason, *supra* note 1, at 2049. For a more detailed presentation of the sources and effects of childhood lead poisoning, see Kenneth M. Reiss, *Federal Regulation of Lead in Drinking Water*, 11 VA. ENVTL. L.J. 285 (1992).

32 *Cities Exceed Lead Levels*, *supra* note 25, at 3.

33 See *supra* note 4 and accompanying text.

34 *Hearings on Lead Poisoning*, *supra* note 4, at 540 (testimony of Erik D. Olson; citing R. Levin et al., *Exposure to Lead in U.S. Drinking Water, in 1989 TRACE SUBSTANCES IN ENVIRONMENTAL HEALTH* 319 (Hemphill ed.)).

35 Shannon & Graef, *supra* note 5; see also *Hearings on Lead Poisoning*, *supra* note 4, at 10 (testimony of John W. Graef on behalf of American Academy of Pediatrics).

lead exposure from contaminated tap water was confirmed by analyzing the water used to prepare the formula and excluding other lead sources.³⁶

In contrast to lead poisoning from all sources, there is no documented correlation between income level or race and lead exposure from drinking water.³⁷

The water distribution system is the primary cause of lead-contaminated water. Lead contamination of the water supply at the source is generally not a problem;³⁸ rather, lead leaches into drinking water from (1) water supplier service lines and (2) plumbing within the home.³⁹ Lead enters the water as the water wears away older pipes, solder, and other plumbing.⁴⁰ Significant amounts of lead can dissolve into drinking water from lead pipes indefinitely.⁴¹

With increased knowledge of the effects of lead poisoning on children and the widespread impact of lead-contaminated drinking water, pediatricians and environmental groups have called for effective measures to reduce lead exposure from drinking water.⁴²

II. EPA REGULATION OF LEAD IN DRINKING WATER

In order to assess and reduce the public's exposure to lead from drinking water, the EPA established the Lead and Copper Rule in June, 1991,⁴³ pursuant to the 1986 Amendments of the Safe Drinking Water Act ("SDWA").⁴⁴ A broad overview of federal regulation of lead in drinking water is necessary to identify which households are endangered by lead-contaminated water and most

36 Shannon & Graef, *supra* note 5, at 88.

37 *Hearings on Lead Poisoning (Part 2)*, *supra* note 18, at 114 (testimony of Victor J. Kimm, Deputy Assistant Administrator, Office of Prevention, Pesticides, and Toxic Substances, U.S. Environmental Protection Agency).

38 See Reiss, *supra* note 31, at 291.

39 EPA Drinking Water Regulations, 56 Fed. Reg. 26,460, 26,463 (1991) (to be codified at 40 C.F.R. §§ 141, 142).

40 *Id.*; see also Reiss, *supra* note 31, at 291. In 1986, Congress prohibited the use of lead solder containing greater than 0.2% lead and limited the lead content of faucets, pipes, and other plumbing to 8.0%. 42 U.S.C. § 300g-6 (1988).

41 EPA Drinking Water Regulations, 56 Fed. Reg. at 26,466.

42 See *Hearings on Lead Poisoning*, *supra* note 4; *Hearings on Lead Poisoning (Part II)*, *supra* note 18.

43 Lead and Copper Rule, 40 C.F.R. § 141.80-91 (1992).

44 42 U.S.C. §§ 300f to 300j-11 (1988). To address the problem of lead contamination in drinking water coolers, particularly in schools and day care centers, Congress also passed the Lead Contamination Control Act ("LCCA"). 42 U.S.C. §§ 300j-21 to -25. For a discussion of the LCCA, see Reiss, *supra* note 31, at 291-93.

likely to evoke principles of tort and contract liability against a public water system.⁴⁵

A. *EPA's Comprehensive National
Monitoring Requirements*

The drinking water regulations first require comprehensive national monitoring for lead in drinking water.⁴⁶ Water systems must test tap water in high-risk residences. A residence is high risk if it is served by lead service lines or contains lead interior pipes or copper pipes with lead solder installed after 1982.⁴⁷ Water systems test the tap water without first running the tap to flush the system.⁴⁸ Because more lead leaches into water the longer the water remains in contact with the lead, the first water drawn from the tap in the morning or water that has stood in lead pipes for several hours contains a higher concentration of lead.⁴⁹

The EPA has established a lead "action level" for tap water samples collected during the monitoring periods.⁵⁰ A system exceeds the lead action level if more than ten percent of the monitored tap samples have lead levels in excess of fifteen parts per billion (ppb).⁵¹ Large water systems⁵² completed the first round of monitoring in June, 1992,⁵³ and the second round in December, 1992.⁵⁴ Small and medium-sized water systems⁵⁵ are not required to complete monitoring until mid-1993.⁵⁶

The first round of monitoring revealed that of the nation's 660 large public water systems, 130, or approximately twenty percent, exceeded the lead action level.⁵⁷ Those 130 systems provide

45 This Part is intended to provide only a broad overview of the national primary drinking water regulations for lead and copper. For a more extensive consideration, see Reiss, *supra* note 31.

46 40 C.F.R. § 141.86.

47 *Id.* § 141.86(a).

48 *Id.* § 141.86(b).

49 *See id.* § 141.85(a)(3)(iii); EPA Drinking Water Regulations, 56 Fed. Reg. at 26,466.

50 40 C.F.R. § 141.80(c)(1).

51 *Id.*

52 Large water systems serve more than 50,000 persons. *Id.* § 141.81(a)(1).

53 *Cities Exceed Lead Levels*, *supra* note 25, at 2.

54 *Id.* at 2. Results of the second round, due to be completed by December 31, 1992, are not yet available.

55 Small water systems serve less than 3,300 persons; medium-sized systems serve between 3,300 and 50,000 persons. 40 C.F.R. § 141.81(a)(2).

56 *Cities Exceed Lead Levels*, *supra* note 25, at 2.

57 *Id.* These results represent tap water tested in high risk homes without first flush-

drinking water to approximately thirty-two million people.⁵⁸ Ten public water systems reported tap lead levels over seventy ppb,⁵⁹ and fifty-five reported lead levels over thirty ppb.⁶⁰

*B. EPA Measures to Reduce the Content
of Lead in Drinking Water*

The EPA has prescribed certain steps to reduce the public's risk of lead exposure from drinking water. First, lead levels in drinking water largely depend on the corrosivity of the water.⁶¹ Large systems must begin to optimize corrosion control treatment of water by January 1, 1993, regardless of the monitoring results.⁶² Corrosion control treats water with chemicals such as lime, calcium carbonate, and orthophosphate to reduce the corrosive effect of water on lead plumbing and prevent lead from leaching into drinking water.⁶³ Small and medium-sized water systems must install optimal corrosion control only if more than ten percent of the tested tap samples exceed the action level of fifteen ppb.⁶⁴ A small or medium-sized water system in which less than ten percent of the tested samples exceed the lead action level is subject to no further regulation, meaning that some customers may be furnished with lead-contaminated water with no limit on the extent of exposure.⁶⁵

If a system still exceeds the lead action level after installing optimal corrosion control, it must replace lead service lines to further reduce lead levels.⁶⁶ However, a system must only replace seven percent of its lead service lines per year, and a system need not replace an individual lead service line if the lead content in

ing the system. See *supra* notes 47-49 and accompanying text.

58 *Cities Exceed Lead Levels*, *supra* note 25, at 2.

59 *Id.* Those public water systems were Charleston, S.C. (211 ppb); Escambia County, Fla. (175 ppb); Newton, Mass. (163 ppb); Framingham, Mass. (100 ppb); Utica, N.Y. (100 ppb); Jersey City, N.J. (84 ppb); Somerville, Mass. (84 ppb); Broward County, Fla. (84 ppb); Cedar Rapids, Iowa (80 ppb); Malden, Mass. (71 ppb). *Id.*

60 *Id.* Fifty, or 8%, of the large public water systems did not perform the required monitoring and thus violated the Lead and Copper Rule. *Id.* at 3.

61 EPA Drinking Water Regulations, 56 Fed. Reg. at 26,466.

62 Lead and Copper Rule, 40 C.F.R. § 141.81(a)(1).

63 See *id.* § 141.82; *Cities Exceed Lead Levels*, *supra* note 25, at 2.

64 40 C.F.R. § 141.82(a).

65 See *Hearings on Lead Poisoning*, *supra* note 4, at 543 (testimony of Erik D. Olson on behalf of the National Wildlife Federation, Natural Resources Defense Council, and Friends of the Earth).

66 40 C.F.R. § 141.84.

all samples from that line is less than fifteen ppb.⁶⁷ That means that some households will not receive water with what the EPA considers acceptable lead levels until the year 2015.⁶⁸

The EPA also provides measures to address the problem of lead in source water.⁶⁹ Since lead enters drinking water primarily from plumbing within the water system, source water lead contamination is not a significant problem for most water systems.⁷⁰

C. Public Education Requirements

EPA regulations also establish a program of public education for systems exceeding the lead action level.⁷¹ A water system that fails to meet the lead action level on the basis of tap water monitoring has sixty days to notify consumers that their water may have elevated lead levels.⁷² The customer's water bill itself must contain a warning in large print that elevated lead levels in drinking water pose a significant risk to health and must direct the customer to an enclosed notice for more information.⁷³ The notice enclosed in the water bill must contain text set out in the EPA regulations informing consumers of the health effects of lead in drinking water and recommending steps to reduce lead exposure from drinking water.⁷⁴ Among the recommended steps to reduce lead levels in drinking water are that consumers (1) run the tap before drinking or cooking with the water; (2) not cook with or drink water from the hot water tap; (3) remove loose lead solder and debris from plumbing materials; (4) replace lead solder with lead-free solder; (5) determine if the service line connecting their home to the water main is made of lead; and (6) have an electrician make sure that grounding wires are not attached to pipes, which may increase corrosion.⁷⁵ In addition, the notice must recommend purchase or lease of a home treatment device⁷⁶ and

67 *Id.* § 141.84(b)-(c).

68 *See Hearings on Lead Poisoning, supra* note 4, at 543 (testimony of Erik D. Olson).

69 40 C.F.R. § 141.83(a).

70 *See supra* notes 38-41 and accompanying text.

71 40 C.F.R. § 141.85.

72 *Id.* § 141.85(c).

73 *Id.* § 141.85(c)(2)(i). The following alert must appear on the water bill in large print: "SOME HOMES IN THIS COMMUNITY HAVE ELEVATED LEAD LEVELS IN THEIR DRINKING WATER. LEAD CAN POSE A SIGNIFICANT RISK TO YOUR HEALTH. PLEASE READ THE ENCLOSED NOTICE FOR FURTHER INFORMATION."
Id.

74 *Id.* § 141.85(a).

75 *Id.* § 141.85(a)(4)(ii).

76 Filters that effectively remove most lead from water at the tap are now available

purchase of bottled water for drinking and cooking.⁷⁷ It also must provide information regarding testing water for lead⁷⁸ and having blood lead levels tested.⁷⁹

The EPA reported that many of the 130 large public water systems exceeding the lead action level⁸⁰ had notified their customers of the elevated lead levels and made suggestions on how to reduce lead exposure from drinking water through the EPA public education program.⁸¹ In addition, several newspapers reporting on the first round of monitoring assisted the EPA's public education efforts by mentioning the EPA recommendation that people let the tap run for a few minutes before drinking or cooking with water in the morning or after water has stood in the pipes for several hours.⁸²

The EPA's education program, however, requires no notice to consumers served by water systems that meet the lead action level, even though up to ten percent of their homes may receive unsafe, lead-contaminated water.⁸³

III. TORT LIABILITY OF PUBLIC WATER SYSTEMS FOR FURNISHING UNSAFE WATER

Individual homes within a water system that are serviced by lead lines receive no regulatory protection as long as ninety percent of the samples for the entire system fall below the action level.⁸⁴ Thus, even though up to one in ten households may receive unsafe, lead-contaminated water, the EPA does not require

at a cost of \$20 to \$40. See Reiss, *supra* note 31, at 307 (citing *Engelhard Unveils New Water Filter to Reduce Lead*, WALL ST. J., May 22, 1991, at B4).

77 40 C.F.R. § 141.85(a)(4)(iii).

78 *Id.* § 141.85(a)(4)(v). A single test for lead costs between \$20 and \$40. *Cities Exceed Lead Levels*, *supra* note 25, at 2.

79 40 C.F.R. § 141.85(a)(4)(iv).

80 See *supra* notes 57-60 and accompanying text.

81 *Cities Exceed Lead Levels*, *supra* note 25, at 3.

82 See, e.g., Elsa Brenner, *Concern Over Lead in County's Water*, N.Y. TIMES, Nov. 8, 1992, at C1; James Harney, *Lead Plagues S.C. City: Charleston Has Nation's Highest Levels*, USA TODAY, Oct. 26, 1992, at 3A; Bob Hohler & Lauren Robinson, *Lead Levels High in Drinking Water: 14 Mass. Communities Exceed Federal Limit*, BOSTON GLOBE, Oct. 15, 1992, at 29; Tom Kenworthy, *One-Fifth of Largest Water Systems Report Lead Above Safety Standards*, WASH. POST, Oct. 21, 1992, at A2; John McCosh, *Water Ranking Isn't Like it Sounds: Lower Lead Levels by Running the Tap*, ATLANTA J. CONST., Oct. 22, 1992, at J1; Michael Specter, *Lead Levels Excessive in Water, E.P.A. Says*, N.Y. TIMES, Oct. 21, 1992, at B8; Stevenson Swanson, *Lead Still Lurks as Health Hazard*, CHI. TRIB., Oct. 28, 1992, at C1.

83 40 C.F.R. §§ 141.80, 141.85.

84 See *supra* notes 64-68, 83 and accompanying text.

water systems to notify those households as long as the system as a whole meets the action level.⁸⁵ The question then is whether households receiving lead-contaminated water can hold municipal water suppliers liable in tort or contract for resulting damages.⁸⁶

A claim against a municipal water system faces several obstacles with respect to sovereign immunity and the applicable theories of liability.⁸⁷ Even if a claim is successful, a defendant water system would be liable for unsafe conditions that call for a long-term and costly remedy.⁸⁸ The complaint filed in St. Joseph County, Indiana, is an example of the kind of claims that could arise in this context.⁸⁹ The plaintiff Iesha Marie Arnold and her parents resided in a home that received water from Mishawaka Utilities through lead service lines.⁹⁰ After the child was diagnosed as suffering from lead poisoning at the age of one, laboratory tests of drinking water samples at her home indicated a lead concentration of 330 ppb.⁹¹ Iesha Marie was exposed to that water from the sixth month of her mother's pregnancy through the time Iesha Marie was diagnosed with lead poisoning.⁹² The complaint alleges damages against the water supplier for medical expenses, severe pain and suffering, permanent physical and mental injuries, loss of future earning capacity, and fear of future injury.⁹³ Even taking the alleged facts as true, and assuming that Iesha Marie can prove the lead poisoning was caused by the drinking water, several obstacles stand in the way of asserting a claim against a municipal water system.⁹⁴

A. *Sovereign Immunity*

The first hurdle to suing a municipality is sovereign immunity. The general issue is whether a municipality operating a water sys-

85 See *supra* note 83 and accompanying text.

86 See generally Joseph T. Bockrath, Annotation, *Liability of Water Supplier for Damages Resulting from Furnishing Impure Water*, 54 A.L.R.3D 936 (1973).

87 See *infra* Part III.

88 See *supra* notes 66-68 and *infra* notes 197-99 and accompanying text.

89 Complaint, *supra* note 10.

90 *Id.* ¶¶ 28-30.

91 *Id.* ¶¶ 10-11.

92 *Id.* ¶ 7.

93 *Id.* ¶ 16.

94 Preemption of a civil action in state court against a public water system by Congress is probably not an obstacle since Congress has delegated enforcement of SDWA regulations to the states as long as they adopt drinking water regulations no less stringent than the EPA regulations. 42 U.S.C. § 300g-2(a)(1) (1988).

tem performs a governmental function for which it is immune from tort liability. A municipality acting in a private or proprietary capacity, in contrast to a governmental capacity, could be subject to tort liability under the same rules that apply to private persons or corporations.⁹⁵

The "traditional rule" was established in New York, in 1920, in *Canavan v. City of Mechanicville*.⁹⁶ In *Canavan*, the plaintiff and his children ingested water that was infested with typhoid fever germs and sought damages from the city supplying the water.⁹⁷ The New York Court of Appeals established that "[i]n operating a waterworks system, distributing water for a price to its inhabitants, [a municipality] acts in its proprietary capacity, in which it is governed by the same rules that apply to a private corporation so acting."⁹⁸

The United States Supreme Court had the opportunity to consider the proprietary/governmental distinction with respect to a municipal water supplier in 1937 in *Brush v. Commissioner*.⁹⁹ The issue in *Brush* was whether the salary of the chief engineer of New York City's bureau of water supply was subject to the federal income tax.¹⁰⁰ The outcome depended on whether the city engaged in a proprietary or governmental function in maintaining a public water system.¹⁰¹ The Court recognized that most state courts, including New York's,¹⁰² considered the operation of a municipal water system to be a proprietary activity.¹⁰³ The Court, however, decided differently. It concluded that "the acquisition and distribution of a supply of water for the needs of the modern city involve the exercise of essential governmental functions."¹⁰⁴ Nonetheless, the Court distinguished the federal taxation proceed-

95 See generally *County of Nassau v. South Farmingdale Water District*, 405 N.Y.S.2d 742 (App. Div. 1978). The court, deciding that operation of a municipal water system is a governmental function, asserted that the distinction is "artificial" and "illogical." *Id.* at 744. The dissent urged that there are cogent reasons for preserving the "proprietary" rule. *Id.* at 751.

96 128 N.E. 882 (N.Y. 1920).

97 *Id.*

98 *Id.* at 882-83; see also *Layer v. City of Buffalo*, 8 N.E.2d 307 (N.Y. 1937) (also holding that a city operating a municipal system for supplying water performs a proprietary function); *Oakes Mfg. Co. v. City of New York*, 99 N.E. 540 (N.Y. 1912).

99 300 U.S. 352 (1937).

100 *Id.* at 359-60.

101 *Id.*

102 See *supra* notes 96-98 and accompanying text.

103 *Brush*, 300 U.S. at 363.

104 *Id.* at 370.

ing before it from a personal injury tort action.¹⁰⁵ The Court stated that the rule with respect to municipal liability in tort is a local matter,¹⁰⁶ “judicially adopted in order to avoid supposed injustices which would otherwise result.”¹⁰⁷

Recent cases favor the view that a municipality operating a water system engages in a proprietary function. For example, in *S.A.B. Enterprises, Inc. v. Village of Athens*,¹⁰⁸ a New York appellate court considered a commercial laundry’s claim against a village for damages resulting from the village’s failure to replace an inoperative water filtration system.¹⁰⁹ Although the village failed to preserve for appeal the defense that it was performing a governmental function in supplying water, the court stated the “traditional rule:” “[A] municipality, in supplying water through lines to local customers for a volume-based fee, is exercising a proprietary function for which it may be subject to liability in tort.”¹¹⁰

In *Gall v. Allegheny County Health Department*,¹¹¹ a case in which the plaintiffs alleged that they became ill with giardiasis as a result of drinking contaminated tap water,¹¹² the Pennsylvania Supreme Court applied the Pennsylvania Governmental Immunities Act to a public water authority.¹¹³ Under the Act, a municipal water authority would not have governmental immunity where there was a dangerous condition of the water facilities located within rights of way if the plaintiffs established “that the dangerous condition created a reasonably foreseeable risk . . . and that the local agency had actual notice or could reasonably be charged with notice . . . of the dangerous condition.”¹¹⁴ Applying that standard, the court held that the plaintiffs stated a cause of action against the water authority for providing contaminated water.¹¹⁵

105 *Id.* at 363.

106 *Id.* at 364.

107 *Id.* at 363. A New York Appellate Division court, in a case outside the field of tort, relied in part on *Brush* to set aside the decisions of the New York Court of Appeals establishing that a municipal water supplier performed a governmental function. *County of Nassau v. South Farmingdale Water District*, 405 N.Y.S.2d 742 (App. Div. 1978).

108 564 N.Y.S.2d 817 (App. Div. 1991).

109 *Id.* at 819.

110 *Id.* at 820; see also *Moody v. City of Galveston*, 524 S.W.2d 583 (Tex. Civ. App. 1975); *Coast Laundry, Inc. v. Lincoln City*, 497 P.2d 1224 (Or. Ct. App. 1972).

111 555 A.2d 786 (Pa. 1989).

112 *Id.* at 787.

113 42 PA. CONS. STAT. ANN. § 8541 (1982).

114 *Gall*, 555 A.2d at 788.

115 *Id.*; see also *Miller v. McKeesport Mun. Water Auth.*, 555 A.2d 790 (Pa. 1989).

Some courts have applied common-law principles of sovereign immunity to bar suits against municipal water suppliers. For example, in *County of Nassau v. South Farmingdale Water District*,¹¹⁶ the issue was whether a water district was responsible for the cost of removing water mains to make way for construction of a sewer system by the county.¹¹⁷ If the water district was engaged in a proprietary activity, then, like a private utility, it bore the risk and removal costs of its installations interfering with the public health, safety, or welfare.¹¹⁸ The New York appellate court held that operation of the water system was an essential governmental function of the municipality.¹¹⁹ Although this court did not consider the tort liability of a municipal water system, it described the application of the governmental/proprietary function distinction to the area of tort liability as obsolete.¹²⁰ The dissent argued against abrogating the traditional rule of *Canavan*.¹²¹

B. Theories of Liability

Even if a public water system furnishing lead-contaminated water is not immune from suit, the applicable theories of liability may limit a plaintiff's ability to recover.

1. Negligence

The Arnold complaint alleges in Count III that the injuries suffered by Iesha Marie Arnold were a proximate result of the negligence of the City of Mishawaka and Mishawaka Utilities.¹²²

Courts have held that public water systems are subject to a duty of reasonable or ordinary care to furnish pure water. *Horton v. North Attleboro*,¹²³ a 1939 Massachusetts case, illustrates the duty with respect to lead-contaminated water. The plaintiff in that case was poisoned by lead in his drinking water and sued the town that supplied it.¹²⁴ The Supreme Court of Massachusetts determined that the town "owed the duty of furnishing at all times a supply of

116 405 N.Y.S.2d 742 (App. Div. 1978).

117 *Id.* at 742.

118 *Id.* at 743.

119 *Id.* at 747; see also *Wallerstein v. Westchester Joint Water Works No. 1*, 1 N.Y.S.2d 111 (Sup. Ct. 1937).

120 *County of Nassau*, 405 N.Y.S.2d at 746.

121 *Id.* at 752.

122 Complaint, *supra* note 10, ¶¶ 22-26.

123 19 N.E.2d 15 (Mass. 1939).

124 *Id.* at 17.

wholesome water, so far as that could be done by the exercise of care, diligence and skill which is ordinary and reasonable in view of the nature of the business."¹²⁵ The court struck down an instruction that the town's responsibility for water quality stopped at the water gate, the point at which the town distribution system met pipes serving the house.¹²⁶ Even though the plaintiff had installed a lead service pipe running from the property line to the house, the town had to consider "that the water could not be drunk at the water gate, and to adapt its care to the fact that its water had to pass through a leaden service pipe into the house before it would be or could be used for drinking."¹²⁷

It is also possible that in some jurisdictions a failure to comply with federal drinking water regulations, by, for example, failing to give notice of unsafe lead levels when the water system exceeds the lead action level,¹²⁸ would be negligence per se. The initial issue is whether a violation of federal regulations could serve as a basis for finding negligence per se in state court. Although there is little guidance either way on this issue, at least one state court, the Supreme Court of Idaho, has found that violation of federal regulations was negligence per se as a matter of state law.¹²⁹ Putting this issue aside, a 1939 case, decided on the basis of state law rather than federal regulations, considered furnishing contaminated water to be negligence per se. In *Martin v. Springfield Water Co.*,¹³⁰ the plaintiff contracted typhoid fever from drinking contaminated water, and the water company's breach of its statutory duty to provide safe and adequate water as required by state law was negligence per se.¹³¹

125 *Id.* at 19.

126 *Id.*

127 *Id.*

128 *See supra* notes 71-79 and accompanying text.

129 *Arrington v. Arrington Bro. Constr.*, 781 P.2d 224 (Idaho 1989); *Sanchez v. Galey*, 733 P.2d 1234 (Idaho 1986) (as a matter of state law, violation of Occupational Safety and Health Administration regulations may establish negligence per se).

130 128 S.W.2d 674 (Mo. Ct. App. 1939).

131 *Id.* *But see* *Coast Laundry, Inc. v. Lincoln City*, 497 P.2d 1224 (Or. Ct. App. 1972) (statute providing that a municipal corporation selling drinking water to the public shall take every reasonable precaution to protect the water from contamination was not applicable to the rights and duties of the parties).

2. Implied Warranty

Count V of the Arnold complaint alleges that the sale and furnishing of drinking water with unsafe levels of lead breached express and implied warranties made to Iesha Marie Arnold and her parents by the municipal water system.¹³²

(a) *Water as "Goods."*—Several courts have considered whether the implied warranties of merchantability and fitness for a particular purpose of article 2 of the Uniform Commercial Code ("UCC")¹³³ apply to public drinking water supplies.¹³⁴ The initial inquiry is whether article 2 even applies, that is, whether the sale of water by a municipality constitutes the sale of "goods" under the UCC.¹³⁵

Canavan v. City of Mechanicville considered the sale of water under the Uniform Sales Act, in 1920.¹³⁶ The New York Court of Appeals held that "[t]he furnishing of water, through a system of waterworks, by a water corporation, either private or municipal, to private consumers, at a fixed compensation, is a sale of goods within the meaning of the statute."¹³⁷ The court nonetheless found that the city supplying the water made no implied warranties with respect to its purity.¹³⁸ This 1920 case is still cited by courts considering the article 2 implied warranties with respect to public water systems.¹³⁹

Courts have embraced two conflicting views as to whether a municipality furnishing water makes a sale of goods under the UCC. An Oregon court took the view in *Coast Laundry v. Lincoln City*,¹⁴⁰ that the sale of water does not constitute the sale of goods.¹⁴¹ The court noted *Canavan*, but decided that it did not

132 Complaint, *supra* note 10, ¶ 40.

133 U.C.C. §§ 2-314, 2-315 (1977).

134 See generally Gary D. Spivey, Annotation, *Electricity, Gas, or Water Furnished by Public Utility as "Goods" Within Provisions of Uniform Commercial Code, Article 2 on Sales*, 48 A.L.R.3d 1060 (1973).

135 See U.C.C. § 2-105(1) (1977). "'Goods' means all things (including specially manufactured goods) which are movable at the time of identification to the contract for sale other than the money in which the price is to be paid, investment securities (Article 8) and things in action." *Id.*

136 128 N.E. 882 (N.Y. 1920).

137 *Id.* at 883.

138 *Id.*

139 See *infra* notes 142, 145 and accompanying text.

140 497 P.2d 1224 (Or. Ct. App. 1972).

141 *Id.*

apply under the UCC. Because the sale of water was not the sale of goods, it carried no implied warranties of merchantability or fitness for a particular purpose.¹⁴²

There is conflicting authority, however. In *Zepp v. Mayor & Council of Athens*,¹⁴³ purchasers of water brought a class action claiming that they were charged an excessive rate by the city.¹⁴⁴ A Georgia appeals court explicitly rejected the *Coast Laundry* decision and determined that *Canavan* should still apply. The court stated "that the sale of water by a municipality is the sale of goods and a transaction which is governed by Article 2 of the U.C.C."¹⁴⁵

(b) *Implied Warranties*.—Even if the sale of water is governed by the UCC, as the court in *Zepp* decided, the implied warranties of merchantability and fitness for a particular purpose may not apply. In *Sternberg v. New York Water Service Corp.*,¹⁴⁶ customers alleged that the water company's treatment of the water damaged hot water heating systems.¹⁴⁷ A New York appellate court determined that although furnishing water constituted the sale of goods under the UCC, it did not carry implied warranties of merchantability and fitness for a particular purpose.¹⁴⁸ In *Gall v. Allegheny Health Department*,¹⁴⁹ where the tap water caused the plaintiffs to become ill with giardiasis,¹⁵⁰ the Pennsylvania Supreme Court decided that water is "goods" under the UCC.¹⁵¹ The court determined that the implied warranty of merchantability applied to the sale of water,¹⁵² but that the implied warranty of fitness for a particular purpose did not.¹⁵³ The court contrasted the specific use that "particular purpose" envisages with the "ordinary purposes" for which goods are used envisaged in the concept of merchantability.¹⁵⁴

142 *Id.* at 1227-28.

143 348 S.E.2d 673 (Ga. Ct. App. 1986).

144 *Id.* at 674-75.

145 *Id.* at 678.

146 548 N.Y.S.2d 247 (App. Div. 1989).

147 *Id.* at 248.

148 *Id.*

149 555 A.2d 786 (Pa. 1989).

150 *Id.* at 787.

151 *Id.* at 789.

152 *Id.* at 789-90.

153 *Id.* at 790.

154 *Id.*; see also *Moody v. City of Galveston*, 524 S.W.2d 583 (Tex. Civ. App. 1975)

3. Strict Liability

In the last count of the Arnold complaint, Iesha Marie Arnold claims that the city of Mishawaka and Mishawaka Utilities are strictly liable in tort for the injuries resulting from the contaminated drinking water.¹⁵⁵

A Texas appeals court considered the issue of whether strict liability in tort should apply to a city operating a water system in *Moody v. City of Galveston*.¹⁵⁶ In *Moody*, flammable gas present in the water lines created a fire in the plaintiff's kitchen injuring the plaintiff.¹⁵⁷ The court determined that since

a city when engaged in a proprietary activity is subject to the same rules of tort liability as private persons . . . the doctrine of strict liability as set out in Sec. 402a of the Restatement of Torts is applicable to the City when engaged in the sale of water through a municipal waterworks system.¹⁵⁸

Cases involving strict products liability actions against electric utilities provide some guidance as to whether imposing strict liability on a water system is wise as a matter of public policy. In *Bowen v. Niagara Mohawk Power Corp.*,¹⁵⁹ an electrical surge, resulting from a healthy tree limb that fell on distribution lines about two miles from the plaintiff's house, caused a fire that destroyed her house.¹⁶⁰ Although the primary issue was whether electricity could be deemed a "product" for strict liability purposes,¹⁶¹ the New York court also considered whether public policy supported imposing strict liability against a highly regulated public utility.¹⁶² The court determined that

[a]lthough application of strict liability provides a strong impetus for manufacturers to create safer products and is a cogent

(court refused to consider the special issue on U.C.C. warranties because it was not in proper form); *S.A.B. Enters. v. Village of Athens*, 564 N.Y.S.2d 817 (N.Y. App. Div. 1991) (because plaintiff could obtain full recovery from negligence cause of action, court did not review the validity of recovery for breach of warranty).

155 Complaint, *supra* note 10, ¶ 45.

156 524 S.W.2d 583 (Tex. Civ. App. 1975).

157 *Id.* at 585.

158 *Id.* at 588.

159 No. 1270, 1992 WL 337170 (N.Y. App. Div. Nov. 18, 1992).

160 *Id.* at *1.

161 *Id.*; see also *Otte v. Dayton Power & Light Co.*, 523 N.E.2d 835 (Ohio 1988). *But see* *Houston Lighting & Power Co. v. Reynolds*, 765 S.W.2d 784 (Tex. 1988); *Ransome v. Wisconsin Elec. Power Co.*, 275 N.W.2d 641 (Wis. 1979).

162 *Bowen*, 1992 WL at *3-4.

and meaningful justification, we must again point out that the public utility does not operate in a free market It is doubtful whether the imposition of strict liability would lead to a safer distribution system.¹⁶³

In other words, the court considered that holding an electric utility strictly liable for damage resulting from a healthy tree limb that fell on power lines would have little impact on the utility's future conduct.¹⁶⁴ That reasoning might not apply to a public water system furnishing lead-contaminated water. Strict liability for damages caused by lead-contaminated water might impact the future conduct of water systems by providing an incentive to warn consumers of the presence and dangers of lead in their water.

4. Failure to Warn

The Arnold complaint alleges in Counts IV and V that her injury was proximately caused by the failure of the municipal water system to disclose the presence of unsafe lead levels in the water and the precautions necessary to reduce the risk of lead exposure.¹⁶⁵

Under the theories of either negligence or strict liability in tort,¹⁶⁶ the failure of a seller to warn of dangers connected with the product constitutes a defect for which the seller may be liable.¹⁶⁷ Because courts have considered the law applicable to warnings under section 402A of the *Restatement (Second) of Torts* as instructive in negligence cases as well,¹⁶⁸ this section will focus generally on the relevant situations in which courts have imposed a duty to warn under either theory of liability. No court has yet addressed the issue of whether a water system has a duty to warn its consumers of unsafe lead levels. However, on the basis of existing authority, a strong argument could be made that such a duty should be imposed.

163 *Id.* at *4 (quoting *Otte*, 523 N.E.2d at 842).

164 *Bowen*, 1992 WL at *4.

165 Complaint, *supra* note 10, ¶¶ 25, 33, 34.

166 See RESTATEMENT (SECOND) OF TORTS § 402A cmt. j (1965).

167 See TIMOTHY E. TRAVERS, AMERICAN LAW OF PRODUCTS LIABILITY § 8:13 (3d ed. 1987).

168 See, e.g., *Halliburton v. Public Serv. Co.*, 804 P.2d 213 (Colo. Ct. App. 1990).

(a) *Water utilities.*—*Kajiya v. Department of Water Supply*,¹⁶⁹ a 1981 Hawaii case, is perhaps most on point. In *Kajiya*, the husband and wife plaintiffs raised carp as pets in a fishpond on their property.¹⁷⁰ After finding all the fish dead one morning, they sued the Board of Water Supply, alleging that the deaths resulted from the board adding chlorine into the water system, which was toxic to the carp.¹⁷¹ The water system argued that its duty was to provide safe water for humans, not to furnish water suitable for pet fish.¹⁷² While a Hawaii appellate court agreed that the system's primary duty was to humans, it held that "it has a secondary duty to a human's property, which may include his pet fish."¹⁷³ The court went on to conclude that

[w]hen one is in control of what he knows or should know is a dangerous agency, which creates a foreseeable peril to persons or property that is not readily apparent to those endangered, to the extent that it is reasonably possible, one owes a duty to warn them of such potential danger.¹⁷⁴

Under this standard, the issue for trial, among others, was whether the board could foresee that water consumers were keeping carp in water it supplied and that the chlorine endangered them.¹⁷⁵

Intuition suggests that if a system has a duty to warn of conditions in the water supply hazardous to pet fish, it has the same duty to warn of conditions hazardous to children. There is, however, at least one basis to distinguish the lead problem from the facts of *Kajiya*. Unlike *Kajiya*, where the water system affirmatively added chlorine to the water, most lead leaches into water from lead service lines or household plumbing.¹⁷⁶ A water system could argue that it has no responsibility for physical harm caused by the plumbing of individual dwellings, property which it neither owns nor controls.¹⁷⁷

169 629 P.2d 635 (Haw. Ct. App. 1981).

170 *Id.* at 637.

171 *Id.* at 637-38.

172 *Id.* at 639.

173 *Id.*

174 *Id.* at 640.

175 *Id.*

176 See *supra* notes 38-41 and accompanying text.

177 But see *Horton v. North Attleboro*, 19 N.E.2d 15 (Mass. 1939) (town had to adapt its duty of care to the fact that water had to pass through a lead service pipe installed by the plaintiff before it could be used for drinking). Water systems expressed concern in the hearings before Congress that they should not be legally responsible for plumbing

(b) *Natural gas utilities.*—Cases considering a gas utility's duty to warn of hazardous conditions provide some guidance with respect to this issue. Where household plumbing is the exclusive or primary source of lead in tap water, consideration of household heating equipment in the following cases could be sufficiently analogous to form an argument against imposing a duty to warn on water systems. In *Ortiz v. Gas Company of New Mexico*,¹⁷⁸ carbon monoxide from a malfunctioning gas furnace and hot water heater poisoned the plaintiffs.¹⁷⁹ They sued the gas company, arguing, *inter alia*, that it had the duty to warn consumers that gas appliances are inherently dangerous and could become faulty with use.¹⁸⁰ The New Mexico appeals court did not impose a duty to warn, holding that "the gas company has no duty to warn or inspect gas appliances which it did not own, install, or control, until the gas company had notice or knowledge that the appliances were defective."¹⁸¹

The most serious problem with applying the *Ortiz* holding to a water system's duty with respect to household plumbing is that under the EPA regulations, systems must monitor tap samples in high-risk residences.¹⁸² In other words, compliance with the monitoring requirements should indicate which dwellings are likely to have lead piping or solder. On the other hand, that information alone may not be sufficient to create a duty to warn. In *Beans v. Entex, Inc.*,¹⁸³ where a gas-fired space heater caused death by asphyxiation,¹⁸⁴ a Texas appeals court focused more on the burden such a duty would impose. The court first pointed out that the death was due to a faulty gas heater and not the natural gas.¹⁸⁵ It concluded that "[a] duty on the part of [the gas suppli-

and fixtures which they do not own or control. See *infra* notes 211-14 and accompanying text.

178 636 P.2d 900 (N.M. Ct. App. 1981).

179 *Id.* at 901.

180 *Id.* at 902.

181 *Id.*

182 See *supra* notes 47-49 and accompanying text.

183 744 S.W.2d 323 (Tex. Ct. App. 1988).

184 *Id.* at 324.

185 *Id.* at 325; see also *Jacques v. Fleuren*, 523 N.Y.S.2d 694 (App. Div. 1988). In that case, a husband and wife sought to recover for personal injuries from carbon monoxide gas that leaked into their apartment from the furnace and heating system in the basement of the dwelling because of a clogged chimney. *Id.* The court held that "there is no allegation or proof of any latent danger or defect in the product distributed by [the gas supplier] which would trigger any duty to warn plaintiffs of a potential hazard." *Id.* at

er] to warn that asphyxiation could result from a faultily adjusted gas heater or to inspect every pipe and appliance in every establishment serviced would require [the supplier] to take responsibility for property that it does not own or control."¹⁸⁶ The same conceivably could apply to lead plumbing in every dwelling serviced by a water system.

The dissent in *Beans* embraced the view that seems more applicable to a water supplier. Arguing that the gas supplier should have a duty to warn, the dissent pointed out that "[t]he seller's duty to warn arises only where the dangers to be warned of are reasonably foreseeable *and are such that a consumer cannot reasonably be expected to be aware of them.*"¹⁸⁷ Given what the EPA requires of water systems to reduce lead levels in water, water systems should reasonably foresee the dangers of lead. Further, the EPA's public education requirements indicate that at this time consumers cannot reasonably be expected to be aware of the dangers of lead in their drinking water.

These cases provide a set of holdings that water systems could cite by analogy to refute liability for failure to warn households with lead plumbing of lead contamination. The following gas-related case, however, may provide a more compelling analysis in favor of imposing a duty to warn. *Halliburton v. Public Service Co.*¹⁸⁸ involved the system through which natural gas travels in a dwelling. The plaintiffs in that case sued the natural gas supplier for death and injuries sustained in an explosion in their home caused by a leaking tube connecting gas piping to the gas range in the kitchen.¹⁸⁹ A chemical added to the gas to give it an odor caused the tube to deteriorate and eventually leak gas.¹⁹⁰ The gas supplier, aware of this problem, had conducted a public notice campaign in years preceding the accident through a news conference, radio and television announcements, and periodic messages in a newsletter with the customers' monthly bill.¹⁹¹ Plaintiffs, however, lacked actual notice and claimed that the gas supplier was negligent in not adequately warning of the dangers of the tubing,

695.

186 *Beans*, 744 S.W.2d at 325.

187 *Id.* at 326 (emphasis in original).

188 804 P.2d 213 (Colo. Ct. App. 1990).

189 *Id.* at 215.

190 *Id.*

191 *Id.*

which the gas supplier neither owned nor controlled.¹⁹² A Colorado appeals court concluded that "if under the circumstances here, a supplier of natural gas knows its customers' appliances or connectors are leaking gas, then that supplier has a duty to take corrective action which includes, *inter alia*, adequately warning of the danger."¹⁹³ Because water suppliers know that household plumbing introduces lead into the water system, a duty to adequately warn would seem to follow from this case.

(c) *Electric Utilities*.—The fact that water systems know the dangers of lead because of the EPA regulations is also significant with respect to cases involving electric utilities. In *Wells v. French Broad Electric Membership Corp.*,¹⁹⁴ a dairy farmer alleged that his herd suffered from mastitis, an inflammation of the udder, and that "stray voltage" from imbalanced power lines and loose connections caused the condition.¹⁹⁵ A North Carolina appeals court held that the evidence did not support a duty to warn because the utility had no actual knowledge of the causal link between stray voltage and mastitis. Furthermore, because the link was speculative and inconclusive, the evidence did not suggest that the utility should have known.¹⁹⁶

Because water systems do have knowledge that lead-contaminated water is dangerous for drinking and cooking, a strong argument could be made that a system should have a duty to warn. The important point is that, on the basis of authority considering the duty to warn of different utilities, it is possible that courts could hold a water system liable in tort for physical harm resulting from its failure to warn households that their water may be contaminated with unsafe levels of lead.

IV. PROPOSED AMENDMENT TO THE SAFE DRINKING WATER ACT

The foregoing analysis suggests two problems that Congress should address. First, Congress should lend some protection to all

192 *Id.*

193 *Id.* at 217.

194 315 S.E.2d 316 (N.C. Ct. App. 1984).

195 *Id.* at 318. For other cases concerning mastitis and stray electrical voltage, see *ZumBerge v. Northern States Power Co.*, 481 N.W.2d 103 (Minn. Ct. App. 1992); *Kolpin v. Pioneer Power & Light Co.*, 469 N.W.2d 595 (Wis. 1991); *Public Serv. Ind., Inc. v. Nichols*, 494 N.E.2d 349 (Ind. Ct. App. 1986).

196 *Wells*, 315 S.E.2d at 320.

households at risk of unsafe lead exposure regardless of whether the system as a whole meets the lead action level. Second, Congress should resolve the problems faced by both consumers and municipalities when consumers seek a tort remedy against public water systems.

Any realistic solution to these problems must be cost-effective. The primary concern of drinking water administrators with the EPA regulations that now exist is the cost of implementation. Drinking water systems face enormous costs in implementing EPA requirements, and governors and drinking water administrators have expressed great concern with the financial burden.¹⁹⁷ For example, soon after the Lead and Copper Rule went into effect, California officials stated that they could not afford to implement it.¹⁹⁸ In fact, forty-five of the fifty public water systems that did not conduct the required lead monitoring and reporting were in California.¹⁹⁹ Given the existing financial burden on states and public water systems, Congress must adopt a solution that will not impose further financial problems, but will provide some real remedy to unprotected, unsuspecting households.

One recommendation of the Association of State Drinking Water Administrators ("ASDWA") in the hearings before Congress was to conduct a nationwide public education campaign to inform the public of the hazards of lead.²⁰⁰ Of course, public water systems that exceed lead action levels already have the burden of alerting customers that their water may be unsafe.²⁰¹ The EPA's public education program is relatively inexpensive, estimated to cost less than one dollar per household per year for water systems serving more than 1,000 people.²⁰² Despite the low cost, water systems that have conducted monitoring for lead and reported results to the EPA, and thus are aware of whether households are at risk of unsafe lead exposure, are not required to notify house-

197 See *Governors Urge Freeze on Testing Rules, Flexibility to Address Greatest Health Risks*, 23 Env't Rep. (BNA) 1253 (Aug. 21, 1992); *States' Cash Shortfalls May Compromise Drinking Water Protection Programs, GAO Says*, 23 Env't Rep. (BNA) 1144 (Aug. 7, 1992); *State Lead, Copper Rules to Mirror EPA Limits Because States Lack Resources, Group Predicts*, 23 Env't Rep. (BNA) 1148 (Aug. 7, 1992).

198 See *California Says "No" to New Lead Rule; Calls Cost Too High for State to Implement*, 22 Env't Rep. (BNA) 2052 (Dec. 20, 1991).

199 See *Cities Exceed Lead Levels*, *supra* note 25.

200 *Hearings on Lead Poisoning*, *supra* note 4, at 562 (statement of William F. Parrish, Jr., on behalf of the Association of State Drinking Water Administrators).

201 See *supra* notes 71-79 and accompanying text.

202 EPA Drinking Water Regulations, 56 Fed. Reg. 26,539 (1991).

holds at risk if the system as a whole meets the lead action level.²⁰³

This gap in federal regulation of drinking water could be filled by the tort system. Lead-poisoned children with no notice that the water supplied by the municipality contained unsafe lead levels, who can trace their lead intoxication to drinking water, may bring a common-law tort claim against the municipal water supplier for failure to warn of the unsafe condition. The ideal approach, though, would be to prevent childhood lead poisoning from tap water in the first place and thereby avoid unnecessary litigation. The problem for infants and children exposed to lead-contaminated tap water today is that measures to alleviate the problem may take years to implement.²⁰⁴ The federal drinking water regulations should provide a more effective remedy today for children at risk of lead poisoning beyond the present uncertainty that both consumers and municipalities face in litigating common-law tort claims.

Given the low cost of notifying customers of lead contamination through their water bills, Congress should require all water suppliers that have or should have monitored taps for lead to notify customers at risk of unsafe lead exposure. The EPA now requires only water systems that exceed the lead action level to notify consumers. Because the health effects of lead-contaminated water are widespread, permanent, and known to water systems through the extensive federal regulations, Congress should require systems that fail to provide notice to households at risk to bear the cost of resulting damages. Congress should pass the following amendment to the Safe Drinking Water Act:

A water system that knows or should know that it provides its consumers with water containing lead in excess of fifteen parts per billion at the tap must notify consumers of the elevated lead levels, the health effects of elevated lead levels in drinking water, and steps the consumer can take to reduce exposure to lead in drinking water. A water system that does not provide such notice shall be liable for physical harm thereby caused to the ultimate user or consumer.

This amendment would provide several benefits. First, it would motivate water systems to alert all consumers at risk to take the

203 See *supra* note 83 and accompanying text.

204 See *supra* notes 67-68 and accompanying text.

steps recommended by the EPA.²⁰⁵ For \$20 to \$40, consumers could test their taps for lead.²⁰⁶ If the drinking water was unsafe, homeowners with the financial means could examine their homes for lead sources and accordingly replace lead pipes, solder joints, and other plumbing which they otherwise might not know existed or posed a danger. Consumers who lack the means to replace plumbing could perhaps purchase a filter for \$20 to \$40.²⁰⁷ Or, consumers could begin to use bottled water for drinking, cooking, and preparing infant formula. At the very least, notice would alert consumers to let the tap run for a few minutes in the morning. Consumers would also know to have their children tested for lead and to seek the appropriate medical care. Early screening and detection of lead exposure can prevent severe lead poisoning.²⁰⁸

Second, such an amendment should prevent municipal liability for furnishing lead-contaminated water.²⁰⁹ There is little reason to speculate that water systems would not comply with such a notice requirement given its low cost and the fact that only eight percent of large systems failed to comply with the EPA's initial monitoring requirements. Imposing liability on water systems that fail to comply provides a strong incentive to municipalities to take measures that will help prevent lead intoxication now and not in the extended time frame that it may take some systems to comply with current regulations.²¹⁰

By targeting notice to individual consumers as a key means to address lead poisoning now, the amendment serves a third purpose. It shifts some of the immediate burden of reducing lead exposure from water systems to individual homeowners. The Association of Metropolitan Water Agencies expressed concern in the first round of hearings before Congress that homeowners should take more responsibility to reduce lead in drinking water.²¹¹

The first concern was for water suppliers: Testing at the tap "places water suppliers in the position of being legally responsible

205 See *supra* notes 75-79 and accompanying text.

206 *Cities Exceed Lead Levels*, *supra* note 25, at 2.

207 See *supra* note 76 and accompanying text.

208 See U.S. Centers for Disease Control, *supra* note 19.

209 See RESTATEMENT (SECOND) OF TORTS § 402A cmt. j (1965). "Where warning is given, the seller may reasonably assume that it will be read and heeded; and a product bearing such a warning, which is safe for use if it is followed, is not in defective condition, nor is it unreasonably dangerous." *Id.*

210 See *supra* notes 67-68 and accompanying text.

211 *Hearings on Lead Poisoning*, *supra* note 4, at 279 (statement of James S. Wickser, on behalf of the Association of Metropolitan Water Agencies).

for plumbing and fixtures that we simply do not own or control."²¹² Although the Association's concern referred to the legal responsibility to implement the Lead and Copper Rule, legal responsibility for the plumbing of individual homes could also extend to tort liability. In *Horton v. North Attleboro*,²¹³ the 1939 case considering municipal liability for furnishing lead-contaminated water, the court required the water supplier to adapt its duty of care to the fact that the water it provided had to pass through the homeowner's lead pipes.²¹⁴ In other words, even though the source of the lead is plumbing in the home, the municipality may still be liable under common-law principles. Where the water system knows from monitoring that lead levels are not safe, notice to consumers at risk of unsafe lead exposure could protect the municipality from liability.

The second concern was for consumers: "[A] standard at the tap . . . gives homeowners a false sense of security in the expectation that water suppliers can control all aspects of the situation and then, therefore, take [care] of the problem."²¹⁵ Giving water suppliers a strong motivation to notify homeowners could in turn motivate homeowners to assume greater responsibility for reducing the lead content flowing from the tap by means more within the homeowners' control than the municipalities'.

The fourth purpose of the amendment is certainty. Where a municipality refuses to warn consumers that it knows are at risk, and the physical harm caused by lead exposure can be traced directly to drinking water supplied by the municipality, the consumer will have a remedy without facing the multifarious obstacles to bringing suit that exist at present in some jurisdictions.

V. CONCLUSION

Although childhood lead poisoning is one of the most common environmental diseases facing children in the United States, it is also one of the most preventable. In the short-term, prevention of childhood lead exposure from drinking water will depend on the efforts of consumers, not the government. Individual consumers, however, cannot alleviate a problem of which they are unaware. Those most seriously affected by lead-contaminated

212 *Id.* at 278.

213 19 N.E.2d 15 (Mass. 1939).

214 *Id.* at 19 (Mass. 1939).

215 *Hearings on Lead Poisoning, supra* note, 4, at 279.

drinking water may be able to obtain a tort or contract remedy for any resulting harm. Congress, however, should not wait to see if some courts will impose a duty to warn under common-law tort principles. If in fact twenty-three million Americans have lower I.Q.'s because of lead-contaminated drinking water, then all public water systems need a strong incentive to provide consumers at risk with the cost-effective individual notice that the EPA regulations already require of many water systems. If public water systems do not conform to a statutory duty to warn consumers that the drinking water it furnishes may cause permanent neurological damage to their children, then plaintiffs that can prove their case should not be denied a remedy.

Even though drinking water is not the primary source of childhood lead intoxication, it has created a "silent epidemic" due to its widespread and permanent effects. Alerting consumers to the problem and providing them with the information they need to take relatively simple and inexpensive steps to reduce childhood drinking water lead exposure is essential to short-term prevention of an otherwise long-term problem.

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