



DC APPLESEED
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*Lead in the District of Columbia
Drinking Water:*



A Call for Reform

Project Team:
Weil, Gotshal & Manges LLP
Fried, Frank, Harris,
Shriver & Jacobson LLP
December 2004

ACKNOWLEDGEMENTS

Weil, Gotshal & Manges LLP is a leader in the marketplace for sophisticated, international legal services. With more than 1200 lawyers across the U.S., Europe and Asia, the firm serves many of the most successful companies in the world in their high-stakes matters and transactions. Weil, Gotshal thrives on the energy, collaboration, and commitment of our partners and associates. Our attorneys work with their colleagues in other departments, practices and offices. It is not unusual for an attorney in one office to be working with other attorney in a variety of disciplines in several different locales. In this way, clients in one locale can benefit from our legislative strength in Washington, D.C., for instance or our technology expertise in Silicon Valley, our real estate acumen in Miami or our cross-border capabilities in Frankfurt.

After many months of crisis, the management of lead in drinking water in the District of Columbia required an independent and fresh look to examine how best to address this serious public health issue going forward. The results of our analysis lead us to conclude that both the law and management of lead in drinking water in the District require dramatic reform. Through this effort, we have learned that the challenges posed by lead in drinking water are important to us personally as residents of the District but also extend nationwide. We hope our proposals for reform will contribute to a review of law and policy on the national level.

This project illustrates Weil, Gotshal's talents and collaborative spirit. Building on the capabilities of our Environmental Practice Group, with extensive experience in environmental policy and regulation, bankruptcy and other litigation, and commercial transactions, we have assembled a team of lawyers from varied disciplines in the Washington, D.C. office, who were interested in an analysis of complex federal, state and local regulatory policy, governance, and management issues with a goal of improving the protection of drinking water in the District from lead. Their enormous commitment, intellectual rigor, and passion for this project despite very busy schedules represents the best of pro bono service. I am grateful to the leadership of the firm, especially David R. Berz, Managing Partner of the Washington, D.C. Office for encouraging commitment to pro bono work on such a high level and involving such a substantial investment of time.

We have been joined in this effort by colleagues at Fried, Frank, Harris, Shriver & Jacobson, LLP, who examined practices in other jurisdictions to explore both the opportunities for change and other efforts to address this issue. I thank them for their dedication, their significant contributions and for the pleasure of working with such able lawyers.

We are also pleased that we could jointly participate with the DC Appleseed Center for Law and Justice, and through this effort, deepen the firm's commitment to this organization. This talented group's commitment to improving the quality of life and services in the District of Columbia through serious and thorough analysis of important public issues and pragmatic proposals for change is extraordinary.

A list of the Project team members follows this acknowledgment. To each of them, I express deep personal gratitude for their efforts in bringing this paper to life, and look forward to further efforts with them as we move to the next phase of implementing these recommendations.

Stanley M. Spracker, Chair, Project Team
December 2004

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ACKNOWLEDGEMENTS

The DC Appleseed Center for Law and Justice is an independent non-profit advocacy organization whose staff works with volunteer teams of attorneys and other experts to identify serious local issues, research and analyze them, develop and publish recommendations for systemic reform, and advocate for appropriate solutions. In addition to its lead-in-the-water project, DC Appleseed is currently working on initiatives addressing several of the most pressing issues facing the National Capital region, including: D.C. voting rights, access to quality health care for D.C. residents, restoration of the Anacostia River and its watershed, problems of special education in D.C. schools, the structural deficit in the D.C. budget, and District's HIV/AIDS epidemic.

The DC Appleseed Center thanks for following for their generous contributions:

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INTRODUCTION

A. DISCLOSURE OF THE CRISIS

Washington, D.C. residents picked up *The Washington Post* on January 31, 2004, and read that, for several years, drinking water in the District of Columbia (“District”) was contaminated with significantly elevated levels of lead. Making matters worse, residents read that the agency responsible for distributing safe drinking water to the District, the District of Columbia Water and Sewer Authority (“WASA”), had detected unacceptable and unhealthy levels of lead in the drinking water in six out of 15 reporting periods since July 1992. Yet, the public was not aware at all or, in some instances, not in a timely manner, of the presence of elevated lead levels and the potential risks to drinking water quality throughout significant portions of the last 12 years.

The most recent, alarming example of the problem was that in the summer of 2003, WASA tested drinking water in 6,118 homes in the District of Columbia and found that drinking water in 4,075 (or two-thirds) exceeded the 15 parts per billion (“ppb”) regulatory trigger (the “Action Level”) requiring public disclosure and removal of lead service lines. WASA also found that in 2,287 of these homes, lead levels exceeded 50 ppb and in 157 of these homes levels exceeded 300 ppb — much higher than the Action Level.

B. THE PUBLIC’S ALARM

Disclosure of these dramatic test results produced a great public outcry and launched many inquiries, including a District of Columbia City Council hearing on February 4, 2004. This outcry occurred for two reasons: the significant risk to public health posed by the lead, and the loss of trust in government to address that risk. With regard to the health risk, there is a broad scientific consensus that there is no safe level of lead exposure. Although rarely the sole cause of lead poisoning, lead in drinking water can significantly increase a person’s total lead exposure. The U.S. Environmental Protection Agency (“EPA”) has estimated that drinking water is on average the source of at least 20

percent of Americans' lead exposure, but that exposure via drinking water may be as high as 85 percent for infants.¹ Adults who drink water with high lead concentrations can develop kidney problems or high blood pressure.

Lead exposure is particularly problematic for pregnant women, women who are likely to become pregnant and nursing mothers. Developing fetuses, infants and young children are more vulnerable to lead exposure than adults — even at low levels — which may delay their physical or mental development and can cause serious behavioral problems. For example, studies have found, that at blood lead concentrations less than 10 ug/dL — the standard for medical intervention set by the U.S. Centers for Disease Control (“CDC”) — children can suffer from lower scores in several key cognitive function tests. Elevated blood lead levels were found to result in lower arithmetic and reading scores, lower scores on tests for nonverbal reasoning, and decreases in scores for short-term memory. A 2003 study found that lead exposure even at very low levels can affect IQ as well. An increase in lifetime average blood lead concentrations from 1 ppb to 10 ug/dL — well below current legal standards requiring intervention — was associated with a 7.4 point decline in IQ. For these reasons, CDC has concluded that public health authorities should focus on eliminating all lead exposure in children and that lead concentrations in drinking water should fall well below the EPA Action Level.²

Although these health risks from lead in the District's water were severe, the announcements in the press made clear to the public that the agencies responsible for protecting the public health had not adequately addressed those risks. Under provisions of the Safe Drinking Water Act (“SDWA”) and the Lead and Copper Rule (“LCR”), promulgated by the United States Environmental Protection Agency (“EPA”) in 1991, the 2003 lead monitoring results in the District should have resulted in mandatory public disclosure, follow-up sampling, or lead service line replacement. But complete information about the lead sampling results was not reported to WASA's senior management or was reported only on a significantly delayed basis. And to the extent information ultimately was disseminated to the public on the results of lead sampling, WASA failed to convey a sense of urgency, or to provide the community at large with informed choices, on how to respond to elevated levels of lead in drinking water. Some of the faulty responses arose from missteps in complying with the LCR. The problems are more basic, however, as this report will show.

C. THE REQUEST TO DC APPLESEED

In light of these dramatic developments and the apparent governmental failure to protect the public health, District Councilmember Carol Schwartz, in her role as the Chair of the Committee on Public Works and the Environment and who also serves as Co-Chair of the Interagency Task Force³ addressing the issue, asked the DC Appleseed Center for Law & Justice, Inc. (“DC Appleseed”), as an independent, nongovernmental group, to examine the efficacy of the pertinent law and its implementation in the District. She also asked DC Appleseed to examine practices in other jurisdictions related to the issue. Because of the urgency, and because no other independent group was undertaking a comprehensive assessment of the way government addresses these important public health issues, DC Appleseed agreed to undertake this study.

DC Appleseed recognizes that drinking water is not the only source of lead exposure; children's exposure to lead-based paint chips, lead in contaminated soil, lead in food and other sources also are concerns. Nonetheless, addressing this issue is a crucial part of a nationwide effort to reduce or eliminate all sources of lead exposure. However, because the federal law and regulation at issue is limited to the reduction of risks of lead in drinking water and is implemented by agencies with jurisdiction over the water system only, other sources of lead exposure are not addressed in this report.

... the status quo as represented by the

LCR should be found unacceptable.

In brief, our report shows that the regulation of lead in drinking water requires substantial reform both to provide greater public health protection from risks of lead exposure and greater accountability and more vigorous enforcement from local government. We propose consolidating responsibility so that agencies and individuals clearly are accountable. We also propose changes to the governing EPA rule. This rule, coupled with complacent implementation and enforcement, has created a false sense of security about the presence of lead in drinking water in the District and nationwide. Furthermore, newspaper reports and other investigations suggest that widespread abuses of the sampling and disclosure requirements have allowed some water utilities to conceal data in an effort to appear in technical compliance with the LCR, thereby avoiding disclosure and lead service line replacement obligations of the law. At the same time, recent research on health effects of lead, particularly in young children, supports regulation at significantly lower levels than the current 15 ppb Action Level. Given the health threats posed by lead in drinking water, the status quo as represented by the LCR should be found unacceptable. We therefore offer specific suggestions for reforming this rule. We also offer specific suggestions for improving dissemination of information to the public.

D. THE OTHER INVESTIGATIONS

In approaching the topic of lead in drinking water, we took into account that a number of governmental entities are and have been investigating events in the District. In fact, since the first news reports, the Council of the District of Columbia ("D.C. Council"), the Mayor's Office, the United States Congress, the Government Accountability Office ("GAO"), and WASA itself have conducted inquiries into the causes of the failure to disclose the sampling results in a timely and effective manner and into the system of oversight by the District of Columbia of an important public health issue. For example:

- ❖ On February 11, 2004, Mayor Williams and Councilmember Schwartz formed an Interagency Task Force to address the lead issue. On April 22, 2004, the Task Force issued its final report, which focused on the efforts that various District governmental entities had recently made to address the lead issue and offered forward-looking recommendations.

- ❖ On March 4, 2004, WASA hired Covington & Burling to conduct an independent investigation into WASA's actions regarding the elevated levels of lead found in the District's drinking water. The WASA Board noted that the investigation would be headed by Covington & Burling partner Eric H. Holder, Jr., a former Deputy Attorney General of the United States and former U.S. Attorney for the District of Columbia. The results of that investigation, a report called the "Holder Report," was issued on July 16, 2004.⁴
- ❖ The District's Office of Inspector General ("DCOIG") announced two audits of WASA soon after the *Post* article was published. One audit will focus on a technical analysis of the District's tap water, in order to test independently the accuracy of WASA's lead monitoring results. The second audit will address WASA management and performance, including (1) whether WASA has systems in place to ensure that information flows in an accurate and timely manner both within and outside of WASA; (2) whether WASA has controls in place to allow it to take effective action in response to lead monitoring results; and (3) whether federal and local laws relating to lead monitoring are adequate. The preliminary results of the first audit were released on September 22, 2004.
- ❖ GAO is investigating how District and federal authorities handled the lead issue in the District and is exploring the adequacy of laws and regulations regarding the safety of drinking water.
- ❖ EPA launched its own review of WASA's historical compliance with the LCR. EPA and WASA then engaged in discussions regarding the EPA's conclusions, which led to the issuance of an administrative order, agreed to by EPA and WASA, on June 18, 2004. The order sets forth a number of instances in which EPA believed that WASA did not comply with the requirements of the LCR, dating back to the late 1990s. Although WASA neither admitted nor denied EPA's findings in this regard, WASA agreed to undertake a number of activities described in the order to address EPA's concerns regarding its past handling of lead monitoring.⁵
- ❖ The D.C. Council Committee on Public Works and the Environment has held 11 oversight hearings (and heard nearly 60 hours of testimony) on WASA and the federally-required lead service line replacement program.
- ❖ Congress has held four separate hearings on the matter:
 - March 5, 2004, House Committee on Government Reform;
 - April 7, 2004, Senate Subcommittee on Fisheries, Wildlife, and Water (Committee on Environment and Public Works);
 - May 21, 2004, House Committee on Government Reform; and
 - July 22, 2004, House Subcommittee on Environment and Hazardous Materials (Committee on Energy and Commerce).
- ❖ On August 31, 2004, Judge Henry Kennedy of the United States District Court for the District of Columbia dismissed in part a class action lawsuit brought by

residents against WASA and the District alleging that WASA and the District failed to provide safe drinking water to District residents and seeking injunctive relief. Judge Kennedy's order left in place claims against WASA for compensatory and punitive damages.⁶

- ❖ On October 5, 2004, Senators James Jeffords and Hillary Rodham Clinton called for an investigation by the EPA Inspector General into allegations of nationwide abuse of the LCR.

Also, legislation to address the serious lead situation was considered during a June 23, 2004, Senate Environment and Public Works Committee mark-up of water infrastructure legislation. This legislation did not pass the 108th Congress.⁷

E. DC APPLESEED'S FOCUS AND METHODOLOGY

DC Appleseed has examined and analyzed current law and policy, implementation of the LCR in the District by the United States Army Corps of Engineers ("Corps"), WASA, EPA and the District's Department of Health ("DOH"), the communications efforts that informed the public of the risks of lead in drinking water, and the steps available to reduce or eliminate those risks. Many of the other inquiries cited above have addressed the question of responsibility for the failures in disclosure and compliance. Because of their objectives, these important studies necessarily have examined recent events without fully addressing shortcomings of the current LCR.

The primary goal of our effort, instead, was to determine if reforms to the LCR itself or its administration are required to enhance public health protection in the District. We also have looked for guidance at the practices and experiences of other jurisdictions. We endorse many of the reforms recommended by other investigations — in particular with respect to WASA's governance, public disclosure and local oversight — but believe these reforms are only partial solutions to mitigating the presence of lead in drinking water.

In support of this undertaking, DC Appleseed has worked with a project team led by the Washington, D.C. office of Weil, Gotshal & Manges LLP, whose environmental group brings extensive experience with regulation and policy under federal, state and local environmental laws, and Fried, Frank, Harris, Shriver & Jacobson LLP, which led DC Appleseed's review of best practices for managing lead in drinking water across the nation. In addition, the project team worked closely with leading toxicologists in the field, many of whom have published widely and have testified before Congress on the issue of lead, as well as with experts in crisis communications. We also met with or interviewed via lengthy telephone conferences representatives of the following entities: EPA; EPA's Region III;⁸ WASA (a former Chair and current WASA Board Member); the Natural Resources Defense Council; DOH (including a former Director); the District's Environmental Health Administration ("EHA"); American Water Works Association; National League of Cities; offices of the City of Madison, Wisconsin; American Metropolitan Water Association; the Portland, Oregon Water Bureau; Massachusetts Water Resources Authority; Eric Holder (who conducted an important investigation on behalf of WASA); and D.C. Councilmember Schwartz. We also have attended all of the hearings in Congress and before the D.C. Council on this topic. In addition, we have

reviewed relevant documents in the public record from WASA, EPA, the DOH and other agencies. Through these efforts, we have obtained the viewpoints of a wide range of stakeholders in order to evaluate the strengths, weaknesses, costs and benefits of the current regulation of lead in drinking water in the District. This undertaking has persuaded us that the current system is dysfunctional and requires substantial reform to ensure improved protection of drinking water quality.

F. ORGANIZATION AND PRESENTATION OF OUR RECOMMENDATIONS

We begin our paper with an executive summary that describes the problems posed by the current regulatory system and our recommendations for reforming that system. This summary is followed by a description of: the current statutory and regulatory framework for addressing lead in drinking water; the District's system for implementing the requirements of the LCR; the inadequacies of that rule; and the recent failures to inform the public about lead in the local drinking water. With that background, we offer specific recommendations in four areas: (1) reassigning the authority and responsibility for enforcing the LCR in the District; (2) amending the substantive requirements of the LCR so that drinking water requirements for lead in the District are more protective than EPA standards; (3) changing the governance and structure of WASA with respect to enhancing its mission of protecting the public health; and (4) improving the dissemination of public information. Together, we believe these recommendations will allow the government to improve significantly its protection of the public health from the serious risk of lead in drinking water and its dissemination of information about that risk.



EXECUTIVE SUMMARY

A. THE PROBLEM

Control of lead in the water supply is part of a larger effort, one that has been underway for the last 25 years, to reduce lead exposures from a number of sources that adversely affect health, particularly in children.⁹ Although national efforts have resulted in dramatic benefits in terms of reduced lead exposures from many sources, there are still unacceptable numbers of children who have too much exposure to lead.¹⁰ Accordingly, for the District and many communities, lead in drinking water remains a widespread, controllable source of lead and as such the Federal government has focused significant attention on its reduction.

The SDWA requires EPA to set maximum contaminant level goals (“MCLGs”) for 83 contaminants. The SDWA requirement is to set levels at which “no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety.”¹¹ For lead, EPA proposed an MCLG of zero. The decision was based on three considerations: (1) the difficulty in identifying “clear threshold exposure levels below which there are no risks of adverse health effects”; (2) EPA’s policy goal that drinking water should contribute minimally to total lead exposure because a substantial portion of the “sensitive population already exceeds acceptable blood lead levels” from all sources of lead; and (3) the classification of lead as a probable human carcinogen.¹² In promulgating lead in drinking water regulations, EPA concluded that the contribution of lead in drinking water to total lead exposure can range from 20 percent to as high as 85 percent for infants dependent on formula.¹³

Lead enters drinking water mainly from corrosion of lead plumbing pipes and fittings and/or from solder that contains lead, which may be present in water service mains, lead service lines,¹⁴ interior household pipes, faucets containing lead in the home, in schools or in other buildings.¹⁵ Corrosion of pipes and fittings is more likely to occur when water stands in pipes for extended periods of time. For this reason, first drawn water

samples typically have higher lead levels than samples with shorter standing times or flushed water. Similarly, lengthier service lines generally result in higher lead levels than shorter lines because the water is in contact with more lead.¹⁶ Water that is acidic and low in mineral content generally is more corrosive than water that is pH neutral with higher mineral content.

Exposure to lead continues to be greatest among minority children, low income children, children living in larger urban areas, and children living in older houses – all factors that have particular relevance to many families in the District.

Exposure to lead continues to be greatest among minority children, low income children, children living in larger urban areas, and children living in older houses — all factors that have particular relevance to many families in the District. This exposure is toxic to almost every organ system, most importantly, the central nervous system, peripheral nervous system, kidneys, and blood. Lead also has been found to impair hearing acuity, and has been associated with hypertension, chronic kidney disease, delayed puberty, decreased growth in children, and periodontal disease. According to the overwhelming weight of scientific evidence, young children typically are far more susceptible to the harmful effects of lead than adults, in part because children absorb lead in their digestive systems significantly faster than adults. Lead also interferes with their normal processes of growth and development.

Lead exposure also is particularly harmful for pregnant women, for women who are likely to become pregnant, and for nursing mothers. During pregnancy, lead that is stored in bones can be released, exposing the fetus to lead contaminants in the mother's blood. Nursing mothers can pass lead to infants through breast milk. More hazardous, however, is use of lead-contaminated water for the preparation of infant formula from powders or concentrates.¹⁷

In part to address these health concerns, in 1991 EPA adopted the Lead and Copper Rule (“LCR”). The LCR is essentially a corrosion management policy pursuant to which water systems are directed to mitigate the leaching of lead into the drinking water supply through corrosion by some form of chemical treatment of the water. Water utilities are required by the rule to conduct sampling for lead and copper annually in as many as 100 homes. If the levels of lead exceed an Action Level of 15 ppb in over 10 percent of the samples taken, follow-up testing is required. As will be described below, the rule provides a mechanism to reject samples under limited circumstances. If lead levels in excess of 15 ppb are confirmed by the follow-up sampling, public notification efforts are required. In addition, if the Action Level is exceeded, the LCR requires the utility to implement a schedule of removal of 7 percent of residential lead service lines per year. Lead service line removal may be halted if the results of two subsequent rounds of sampling no longer exceed this Action Level. The rule assumes that, although the service line's contribution to contamination is evident at much lower levels, the contribution is indisputable at a level of 15 ppb.

In several ways, the LCR significantly underestimates and underreports the risk to the public health from lead in drinking water. To begin with, the 15 ppb Action Level for lead in water established in the LCR has been and is acknowledged by all stakeholders to be without basis as a public health standard. Recent studies suggest that toxic effects of lead on children and adults may occur at levels much lower than the 15 ppb level currently accepted in public health regulations.¹⁸ For example, since the promulgation of the rule, the CDC set a goal to reduce blood lead levels in children to 10 ug/dL by the year 2000 — a standard which has not yet been met in the District of Columbia or in many other jurisdictions. Yet no action is called for if lead levels in drinking water are below 15 ppb. Corrosion control as a preferred lead management policy has had mixed results in protecting public health, achieving success in some jurisdictions and not in others. Selection of particular chemicals for corrosion control in service lines is more art than science; what works in one jurisdiction is not necessarily predictive of what may work in another.

Furthermore, the current regulations are not intended to, and in practice do not protect all persons exposed to lead in drinking water. As an initial matter, WASA does not have an accurate inventory of which customers have lead service lines — critical data to identify citizens at greatest risk. WASA has identified 23,071 known or suspected lead lines, but these efforts have been hampered by incomplete and ambiguous records.¹⁹ In addition, assuming 100 samples per monitoring period, as long as lead levels in fewer than 10 homes tested exceed the Action Level, no remediation or disclosure is required. Moreover, as soon as the Action Level is met in 90 of the homes tested in two rounds of sampling, the water system is no longer obligated to replace lead service lines.

With respect to the District, EPA received monitoring results on July 9, 2001, indicating that four out of 50 samples (8 percent) in the District were over the Action Level. At that time, EPA had placed WASA on a less stringent monitoring program for lead and copper because previous monitoring efforts reported to EPA showed lead levels below the Action Level. No response was required under the current regulations because these results did not meet the 10 percent trigger. In fact, the regulations do not compel WASA to address the elevated lead levels in the specific homes tested at all, even though two of the samples exceeded 100 ppb for lead. In other words, even where WASA knows people are at risk from significant lead exposure, the rule requires no action to protect them.

In addition, no water utility system is required, absent an EPA emergency order, to provide alternative water supplies, even in a situation where public health authorities advise people not to drink the water. Utilities and homeowners also are encouraged to substitute “lead-free” service parts which, under the LCR, still may contain up to 8 percent lead. Accordingly, under the current rule, a subset of the population will continue to be exposed to elevated lead levels in drinking water with no available recourse.

These shortcomings of the regulatory scheme are by no means limited to the Washington, D.C. area. *The Washington Post* analyzed EPA data that identified 274 utilities serving 11.5 million people that have reported unsafe lead levels since 2000.²⁰ Those numbers do not include utilities where testing methods concealed true lead levels. For example, in Boston and Detroit, records of the local utilities indicate that utilities have failed to test the homes required by law. State regulators and EPA discovered in Spring 2004 that at least one-fourth of the locations tested in the Boston area were not in

compliance with the LCR and ordered the utility to revamp its program. After several years of test results above the Action Level, New York City water officials reported that tests in 2000 showed lead had fallen to levels below 15 ppb, but the city had not reported all of its results. EPA's most recent audits have further demonstrated that testing irregularities are common; and states frequently either do not receive the data from cities demonstrating the violations, or fail to require utilities to take necessary steps to reduce lead called for by the LCR.

Only since the disclosure of the District sampling data — 13 years after promulgation of the LCR — has EPA undertaken efforts in the District and nationwide to review the state of compliance with the LCR, revisit technical and other issues related to public notification, and create an update on current health effects literature. EPA's efforts all are positive developments, but in our view, EPA has not addressed fundamental flaws in the LCR and in its own implementation. By EPA's own acknowledgment, nonreporting of violations of drinking water standards has overstated significantly the current state of compliance.²¹ In addition, EPA has conducted little independent research on lead in the drinking water supply since promulgation of the rule over 13 years ago, and lack of federal support has deferred implementation of lead in drinking water programs in schools, much less lead service line replacement programs. As a practical matter, enforcement of drinking water laws and regulations, other than efforts to eliminate microbiological contaminants, is no longer an EPA priority.²²

Compounding the limitations of the LCR is its ineffectual implementation in the District's metropolitan area. The management of drinking water in the District is the responsibility of four authorities: (1) the Corps, which owns and operates the D.C. Aqueduct and provides drinking water for the District; (2) WASA, which operates the distribution system of pipelines in public space through which the drinking water is supplied to homeowners; (3) EPA, which under current federal law maintains oversight of District compliance with the SDWA and the LCR; and (4) the DOH, which is charged with the management of public health issues for the District.

This diffuse system in practice has ensured accountability by none of these agencies, and in fact, many of the problems we found are the direct result of the lack of clear accountability by the agencies involved. Significantly, the SDWA allows state authorities to assume "primacy" in lieu of EPA to enforce and implement the LCR. Nationwide, only the District and Wyoming have not achieved such "primacy." The District applied unsuccessfully for primacy in 1994. States with primacy have authority to enforce the SDWA, including the ability to seek substantial penalties for noncompliance and to adopt standards more stringent than federal requirements. Although EPA Region III has devoted some recent efforts to improving its oversight of the District and WASA by establishing a Technical Experts Working Group and by executing a consent decree requiring WASA to comply with the LCR, we do not believe that EPA's attention to the District has been adequate.

B. RECOMMENDED SOLUTIONS

I. PRIMACY

We recommend that the District qualify for “primacy” to enforce effectively the LCR and to reform the LCR to provide greater protection to the public health. Primacy also will allow the District to consolidate responsibility for drinking water management so that agencies and individuals are accountable. In enforcing federal regulations on the local level, authorities with primacy can develop local solutions and make sure that the public disclosure and notification provisions of the current law are responsive to community needs. Local authorities with primacy also have tools to compel the various water utilities to meet their obligations under the SDWA. Under current law, if the District achieved primacy, DOH would bear responsibility for enforcing and implementing the LCR. As we discuss below, primacy requires adequate funding, staffing, and legal authority to implement and enforce the safe drinking water regulations.

First and foremost, to realize the benefits of primacy DOH should be equipped with experts in environmental regulation, including drinking water, and senior management consisting of experienced environmental professionals prepared to bring to the attention of the Mayor and the D.C. Council public health problems when they arise and to seek an immediate solution. The Mayor has recently completed a major reorganization of the DOH, including hiring new senior leadership and consolidation of responsibilities for environmental regulatory programs in DOH’s Environmental Health Administration (“EHA”). Our interviews and review of relevant documents suggest that there is requisite talent to support the District’s control of drinking water regulations. At the same time, however, the senior leadership of DOH must have not only the responsibility, but the access to the Mayor and D.C. Council as conditions warrant.

Furthermore, DOH should create and implement an environmental management system to establish a culture requiring reporting of problems to the top of the Agency, so that public confidence can be maintained in the District’s efforts to comply and address problems as they arise. The complexity and breadth of DOH’s current responsibilities for health programs, including Medicaid, teen pregnancy, substance abuse and HIV/AIDS, may make more difficult a focus on an equally demanding set of programs under environmental laws. Accordingly, we recommend consideration by the Mayor and D.C. Council of a new Department of Environmental Protection, which would be charged with implementation of the lead in drinking water regulations as well as compliance with similar or related programs under federal and District environmental laws.

Because a new Department would essentially be built on the existing staff and management of EHA, the costs of establishing a new Department should not be excessive. The new Department, which would be a true public watchdog, would work collaboratively with WASA to address the many technical facets of compliance and, at the same time, could wield its enforcement authority to ensure obligations are met. Mayoral and D.C. Council oversight would subject the process to greater transparency. The benefits of accountability, increased public credibility, improved oversight by the Mayor and D.C. Council, local control and the authority to implement local solutions from this additional DOH reorganization are significant and outweigh the costs associated with it. In the end, whether through DOH or a new Department, we believe the District must achieve primacy — and thus responsibility — for these issues. Once it does so, EPA will retain only limited residual enforcement authority.

2. REVISIONS TO THE LCR

After taking primacy, the District should promulgate regulations representing substantial revisions to the LCR so that drinking water standards for lead in the District are more stringent than current law. The current state of drinking water regulation leaves WASA only two ineffective options. First, WASA can continue the policy of corrosion control with limited success and at great expense, in addition to the sampling and disclosure requirements of the current LCR, which have provided an inadequate and misleading picture of the District's drinking water quality. Second, WASA can implement the program it has announced for partial removal of lead service lines throughout its service area within the next six years at a cost of \$300 million. This amount will be funded through its ten-year, \$1.6 billion Capital Improvement Program, which is ultimately borne by increased fees paid by ratepayers beginning in October 2005. These funds do not come out of the D.C. General Fund. The incremental cost of achieving complete replacement by removing the portion of the service line on private property would be the responsibility of the homeowner; however, low interest loans and grants would be available through local banks for people who cannot afford the approximately \$2,500 expense. WASA estimates this additional cost will total between \$50-60 million based on 23,000 known or suspected lead lines. Although we view WASA's commitment as significant, we disagree with its policy of only partial lead line replacement because as we discuss more fully below, it is potentially harmful to the public health. Indeed, WASA recently has announced a significantly accelerated schedule of partial lead line removals reflecting disappointing results with a change in corrosion control treatment implemented in August 2004.²³ We also believe — and WASA has confirmed — that this policy will yield lower numbers of homeowners willing to comply voluntarily.²⁴

The revisions would include widespread sampling and direct communications from WASA to residents about the results of that sampling, including remedial options. Under our proposal, all residents would be entitled to have their water tested. The sampling would provide residents with information on their drinking water quality . . .

We recommend a third option, premised on substantial revisions to the current LCR under a District regulation to be promulgated when the District obtains primacy. The revisions would include widespread sampling and direct communications from WASA to residents about the results of that sampling, including remedial options. Under our proposal, all residents would be entitled to have their water tested. The sampling would provide residents with information on their drinking water quality and steps they can take to mitigate exposure to lead, regardless of the levels of lead detected. If lead levels meet or exceed 5 ppb, WASA would bear the cost of a number of remedies. Sampling costs can range from \$17 to \$30 for a two-draw sample, including shipping costs to the lab.

More significantly, we also would recommend that WASA commit to a program of full lead line replacement over five years. In addition, our proposal also relies on corrosion control — chemical treatment of lead service lines to mitigate leaching of lead — as a supplemental tool to address residual lead exposure in the home, but not as the preferred policy for lead mitigation. Our approach would impose the additional \$50-60 million cost of full lead line replacement on WASA spread over five years. At a minimum, however, WASA should incur the cost of replacement of lead lines for low-income homeowners. In that event, for the remainder, WASA should be granted authority and the duty to replace the lead lines and bill the homeowner. As part of a \$1.6 billion Capital Improvement Program, the additional \$60 million represents 3 to 4 percent. WASA could finance this improvement by reallocating priorities, through existing reserves, and/or through bond financing or rate increases, spreading the cost flexibly. As we discuss below, a full lead line replacement program in Madison, Wisconsin — over a 10-year period — is funded through a surcharge on customers' bills that totals approximately \$5 per year per customer. WASA has estimated that the increased rates in October 2005 to fund partial lead line replacement would amount to \$22 annually to the average residential water bill. In addition, WASA will direct \$6 million in surplus from the last fiscal year to a rate stabilization fund that will be used to minimize rate increases in future years.²⁵ These capital costs when spread among WASA's ratepayers, will ensure greater compliance with lead line removal.²⁶

In contrast either to the current law or to WASA's proposed partial lead line removal, the benefits of full lead line removal are substantial. In 1991, EPA estimated that reduction of lead levels in drinking water to 5 ppb would realize health benefits nationally of over \$4 billion in 1991 dollars. These benefits include improvements in blood pressure and reduced cardiovascular disease among adults and reduction in deficits in IQ for children. This estimate did not quantify benefits to pregnant women.²⁷ It is clear that contact with lead service lines is a major source of lead contamination of drinking water and that any exposure to lead in the water poses health threats, particularly to the most vulnerable residents of the population. Yet under the current LCR, lead service line replacement only occurs upon exceeding the Action Level following failure of corrosion control. Moreover, replacement can be halted based on the results of subsequent testing. These staged responses to lead contamination have not been effective in achieving reduced lead levels in drinking water.

... the LCR for several reasons underestimates significantly the number of lead service lines posing risks to public health, masking the true extent of drinking water contamination from lead.

In fact, the LCR for several reasons underestimates significantly the number of lead service lines posing risks to public health, masking the true extent of drinking water contamination from lead. In the first place, sampling requirements on the extent of lead levels are unreliable. In addition, the 15 ppb Action Level — even if it were enforced — does not represent the health risk posed by lead service lines. EPA initially proposed a 3 ppb trigger for lead line removal, but ultimately adopted 15 ppb as the Action Level for consistency's

sake. Accordingly, the LCR does not reflect the contribution of lead lines to contamination at the tap. Given the adverse health effects from levels of lead well below current standards, which we further discuss below, complete removal of lead line places the burden of compliance where the greatest public health benefits are likely to be achieved.

Because drinking water is not the only source of lead ingestion, the question arises whether an enhanced effort to control lead in drinking water by replacing all lead service lines within five years might reduce the funds available for reducing the ingestion of lead from other sources. We have found no serious argument that this could be the case. WASA's responsibilities, of course, concern drinking water — not lead in household paint, or in the air, or in food sources. The responsibilities for mitigating other sources reside in whole or in part in federal agencies whose funding and programmatic priorities are determined wholly apart from those of WASA. Even within the District, the agencies that share responsibilities with the federal government for the problem of lead in paint are funded wholly separately from WASA. WASA, by statute, funds itself through rates paid by users and through WASA's own borrowing authority. WASA borrows on its own credit, and its borrowing does not impair the borrowing capacity of other District agencies.²⁸ Certainly that is the case with respect to the additional expenditures that would be required for lead service line replacement over and above the costs of the replacement to which the WASA is already committed. It would take a powerful and specific demonstration of severe trade-offs to warrant not pursuing our recommendations because of possible effects on the mitigation of lead from other sources, and we do not believe that any such demonstration could be made.

We believe our recommendations on these proposed, substantive revisions to the LCR in a District regulation could also serve as a model for reforms of the current LCR nationwide. Congressional interest in major revisions to this rule has grown with the disclosure of events in the District of Columbia. The recent reporting on abuses of the regulation across the country should lead to a serious national discussion on changes to the SDWA and LCR. We hope our recommendations will contribute to that debate.

3. WASA AND THE AQUEDUCT

As another step toward protecting the public health, we also recommend that WASA acquire part or all of the operations of the D.C. Aqueduct from the Corps. The Corps is a public works agency, which Congress directed under a 1996 law to divest itself of most of its operations of waterworks activities, including the D.C. Aqueduct. The Corps operates free from local accountability and its decision-making process does not adequately reflect its public health mission. The Corps cannot borrow money and, in financing improvements, must follow federal pay-as-you-go procurement guidelines. The Corps' initial decision to select a corrosion control technology was protracted, conducted by low level managers, reflected a preference for selection of the least costly chemical treatment rather than careful consideration of potential adverse health effects, and did not reflect a transparent process.

Although WASA does have opportunities for consultation with the Corps, we believe creating an integrated water authority (WASA) that controls both the supply and distribution of water will provide at the local level an authority whose conduct can be reviewed by the District government. Furthermore, the cost of operating and maintaining the D.C. Aqueduct is not funded through the usual federal budgetary mechanisms. WASA already pays 75 percent of the Aqueduct's operating and capital costs.²⁹ The balance is paid by the Aqueduct's Virginia wholesale customers, Arlington and Falls Church. Thus, the customers already bear the full

costs of the D.C. Aqueduct. Separation of WASA's funding from the District's General Fund and the prohibition on transferring WASA funds to other District operations under current law also should be maintained. The D.C. Council already conducts useful oversight of WASA's performance, a practice that should continue with an expanded water utility.

In addition, we believe that there are a number of governance reforms that would ensure WASA's management and its Board are always aware of the importance of its public health mission in providing safe drinking water to the residents it serves. For example, we recommend that the Mayor appoint WASA Board members with environmental experience, and that WASA designate a senior level manager directly reportable to the General Manager and the Board with exclusive responsibility for environmental compliance. To its credit, WASA has taken some steps in that direction.

We also have examined WASA's previous efforts (taken at the direction of the District) to evaluate the possibility of expanding into a regional water authority and some of the related issues. WASA has been an effective agency in stabilizing its finances, creating a strategic plan to upgrade infrastructure, and providing strong leadership on these issues. Because many of the issues involved in transferring the Aqueduct to WASA also may apply to govern broader questions of regionalization, and given the regional effects of environmental regulation, including lead in drinking water, we recommend WASA revisit the question of its future role as a regional water authority.

4. PUBLIC INFORMATION

Finally, WASA has taken some steps toward enhancing its public communications efforts but more needs to be done to address the serious failure to disseminate timely, accurate information to the public. In that respect, we recommend a more widespread effort to communicate risks of lead through direct letters to consumers, pamphlets, public service announcements and the WASA website. We also urge WASA to develop an emergency plan to respond to different categories of crisis. D.C. Council oversight hearings also provide opportunities for WASA to report on its public health mission. We also recommend that WASA better coordinate its communications with DOH and the media to avoid inconsistent messages.

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In summary, we conclude that the LCR must be amended and strengthened if it is to protect citizens and provide them safe drinking water. We recommend that the District achieve primacy to enforce the regulations locally and to reform significantly current regulations to enhance protection of the public health. These reforms could serve as a model for a revised LCR and, at a minimum, should be part of the upcoming national debate on the topic. We also propose that WASA take steps to acquire the D.C. Aqueduct from the Corps, make significant reforms to WASA's governance and management structures reflecting its public health mission, and consider expanding to larger regional authority. Finally, we recommend WASA dramatically improve public communications efforts on this important topic to create more accessible information, clarify explanations of risks to homeowners and provide consumers with effective options to mitigate lead exposure. Until these reforms are realized, we recommend continued monthly meetings of senior leaders and technical staff of DOH, EPA, WASA, and the Corps so that they can enhance existing relationships and identify and address problems more quickly and accountably. The results of these meetings should be reported to the D.C. Council and the Office of the Mayor. Taken together, we believe our recommendations are necessary steps for better protection of the public health.



PART 1.

FLAWS IN THE CURRENT SYSTEM

I. Statutory and Regulatory Authority Governing Lead in Drinking Water

A. FEDERAL SAFE DRINKING WATER ACT

The Federal Safe Drinking Water Act,³⁰ (“SDWA”), requires the EPA to adopt and enforce standards to ensure the safety of public water systems. The SDWA requires EPA to set a maximum contaminant level goal (“MCLG”) for each contaminant in drinking water. Because that goal may not be achievable, EPA is charged with establishing a maximum contaminant level (“MCL”) as the standard which public water systems are required to achieve.³¹ States (or the District) that adopt regulatory programs that follow or are more stringent than EPA guidelines can assume primacy to enforce compliance with those regulations.³² The District has not, however, adopted the requisite regulations and has applied unsuccessfully for primacy, leaving EPA Region III as the primary enforcement authority in the District.³³

B. EPA REGULATIONS TO CONTROL LEAD IN DRINKING WATER

The SDWA requires EPA to set MCLGs at levels at which “no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety.”³⁴ For lead, EPA proposed an MCLG of zero. The decision was based on three considerations: (1) the difficulty in identifying “clear threshold exposure levels below which there are no risks of adverse health effects”; (2) EPA’s policy goal that drinking water should contribute minimally to total lead exposure since a substantial portion of the “sensitive population already exceeds acceptable blood lead levels”; and (3) the classification of lead as a Group B2 (probable human) carcinogen.³⁵

Critics of EPA’s proposal advocated setting the lead MCLG above zero, arguing that concerns over blood lead levels at or below 15 ug/dL were unsubstantiated. In response, EPA cited findings from the 1986 Air Quality Criteria Document and the 1990

Supplement which noted the range of adverse health effects associated with varying blood lead levels. For instance, children with lead levels of 20-30 ug/dL exhibited slowed peripheral nerve conduction, and reductions in early childhood growth were seen with lead levels ranging from 5 to possibly more than 40 ug/dL. Individuals with blood lead levels at (or possibly below) 15 ug/dL demonstrated inhibited enzyme activity in red blood cell metabolism, altered electrical brain wave activity, and deficits in IQ and other cognitive functions. Interference with vitamin D hormone synthesis was detected in children with lead levels as low as 12 ug/dL. Deficits in mental indices were found in infants with maternal or umbilical cord lead levels as low as 6-7 ug/dL. Finally, increased blood pressure has been associated with lead levels as low as 7 ug/dL. Utilities and homeowners also are encouraged to substitute “lead-free” service parts (however, under the SDWA, these parts still may contain up to 8 percent lead).³⁶

EPA’s Clean Air Science Advisory Committee reviewed these findings and concluded EPA should seek to minimize the number of children with lead levels above 10 ug/dL although EPA recognized that biological changes can occur at lower levels.³⁷ In 1991, when the LCR was promulgated, EPA cited a 1988 study by the U.S. Department of Health and Human Services which estimated that there were several million children with blood levels above 10 ug/dL.³⁸ EPA estimated that typical drinking water contribution to total lead exposure for an average two-year-old child is approximately 20 to 60 percent. However, the proportion of exposure to lead from drinking water will vary with different levels of lead in the water and with variations in other lead exposures, such as lead paint, contaminated soils and dusts near roadways, or other sources of airborne lead.³⁹ As such, it became EPA’s policy goal that drinking water should contribute minimal additional lead to existing blood lead levels.

In lieu of establishing an MCL for lead, to correspond with the zero MCLG, EPA adopted a treatment technique approach. According to EPA, setting MCLs for lead was not feasible within the meaning of the SDWA and would not achieve the basic purposes of the statute. Some critics of the rule disagreed with EPA and argued in favor of establishing MCLs, but differed as to the appropriate location (source water, tap or service line) for testing drinking water for concentrations of lead. Other critics believed testing should occur at the entry point to the distribution system or at the end of the water system’s control (*e.g.*, water meter or outside tap). They argued that public water systems have no responsibility for lead levels at the tap because most lead contamination detected is from sources beyond the control of the public water system, *e.g.*, household plumbing.⁴⁰ Yet another group of critics supported testing at the tap, but differed as to whether the sample should be fully flushed or at first-draw.⁴¹

EPA responded to each of these comments. EPA rejected plans to test water at the entry point to the system, which in this case would mean the Potomac River. Testing water at the entry point would not adequately protect the public from the lead that is introduced by the interaction of corrosive water — which is delivered by the public water system — with the lead-bearing materials in the homeowners’ plumbing. Likewise, EPA rejected using fully-flushed samples from the tap, as not adequately reflecting the interaction between the water delivered by the public water system and the homeowners’ plumbing. EPA also generally rejected establishing MCLs at the tap. Lead levels at the tap are subject to great variability as a result of the amount of lead in the owners’ plumbing

system, the amount of lead in the public water system, temperature, age of plumbing components, chemical and physical characteristics of distributed water, length of time water is in contact with lead-bearing plumbing components, and degree of corrosiveness of the distributed water.⁴² Ultimately, EPA concluded that basing MCLs only on samples taken at the source, at the meter, or at the tap, would not fully account for consumers' exposure to lead in drinking water, nor "provide a means to fully evaluate whether a system is properly implementing optimal corrosion control."⁴³ The treatment technique approach, on the other hand, was adopted as an approach to achieve the goals of the SDWA without the problems associated with MCLs.

The treatment approach includes corrosion control, source water treatment, lead line replacement and public education. Public water systems are required to identify certain target test locations and evaluate the level of lead in tap water.⁴⁴ The water utility must develop and implement a monitoring program, and continue monitoring every six months. Large water utility systems, like WASA, can be required to install and maintain an optimal corrosion control system even if sampling does not show that the system exceeds the Action Level for lead, that is, when 10 percent of the tap water samples collected in a monitoring period exceed 15 ppb.⁴⁵

Only after the system undertakes the optimal corrosion control treatment will the regulatory authority evaluate service line and point of use water samples. The purpose of the evaluation is to determine the water quality measurements which can best verify effective operation of the corrosion control treatment. If a system meets the corrosion control parameters for two consecutive six-month monitoring periods, the system may reduce the frequency of those tests.⁴⁶ A system is out of compliance if it fails to meet any of the designated parameters on more than nine days in a six-month monitoring period.⁴⁷ Once a system is deemed to have optimized corrosion control, it is required to continue monitoring for lead at the tap no less frequently than once every three years.⁴⁸

To ensure an accurate determination of the 90th percentile lead level, the LCR allows flawed samples to be "invalidated," meaning that they do not count toward determining the 90th percentile or toward meeting other LCR requirements. A sample can be invalidated for one of four reasons: (1) the laboratory establishes that improper sample analysis caused erroneous results; (2) the State determines that the sample was taken from a site that did not meet the LCR's site selection criteria; (3) the sample container was damaged in transit; or (4) there is substantial reason to believe that the sample was subject to tampering.⁴⁹ A water system must report to EPA all samples, including those for which it requests invalidation, and must provide all supporting documentation for any sample invalidation.⁵⁰ Any decision to invalidate a sample must be in writing, describing both the decision and the underlying rationale. The rule specifically provides that samples may not be invalidated solely on the ground that a follow-up sample yields a test result higher or lower than that of an original sample.⁵¹ If, after invalidating samples, a system has too few samples to satisfy the requisite number of sampling sites that must be tested in the monitoring period, the system must collect replacement samples in a specified time frame from the same locations as the invalidated samples. If it is not possible to collect samples from the same sites, such additional samples should be collected from locations other than those already used for sampling during the monitoring period.⁵²

In addition to installing corrosion control treatments, water systems exceeding the lead Action Level are required to complete the applicable source water monitoring and treatment requirements. The systems must monitor for source water lead and recommend source water treatment to the regulatory authority within six months after exceeding the lead Action Level.⁵³ Within six months of a water system's recommendation, the regulatory authority must review source water samples and determine whether source water treatment is necessary to minimize lead levels.⁵⁴ If the regulatory authority determines source water treatment is necessary, the system must install the treatment within 24 months. Within 36 months of that determination, the system must complete follow-up tap water monitoring. The regulatory authority is responsible for reviewing the system's installation and operation of the source water treatment and for specifying maximum permissible source water levels. Finally, the systems must ensure that source water does not exceed the maximum permissible lead concentrations.⁵⁵

The water utility also must implement a public notification program that continues as long as the water samples exceed the Action Level. The program requires the utility to deliver specific information about lead hazards through public service announcements every six months, and through utility bill mailings, newspapers and pamphlets every year. If the system has not been distributing the information regularly on that schedule, it has to take action to alert the public within 60 days of triggering the Action Level.⁵⁶ The public education program was envisioned as a supplemental program while the water system worked to reduce lead levels through corrosion control, source water treatment or lead service line replacement. In situations where elevated lead levels persist at consumers' taps despite the treatment techniques, public education will prompt consumers to take actions in their homes, *e.g.* flushing tap water or replacing fixtures, to reduce their exposures to lead.⁵⁷

If a system exceeds the lead Action Level after installing optimal corrosion control and/or source water treatment, it must begin replacing its lead service lines. Replacement proceeds at a rate of 7 percent per year of the lead service lines in place at the beginning of the replacement program. The water system has to replace the segment of lead service line it owns at its cost, and must offer to replace the portion of a line it does not own at the line owner's cost. It can cease the lead service line replacement program if first draw samples from the point of use (the residential tap) meet or are below the lead Action Level for two consecutive six-month monitoring periods. The utility must resume the service line replacement program if subsequent tests exceed the Action Level.⁵⁸

Although acknowledging that there is limited qualitative information regarding contributions from lead service lines to lead levels at the tap at the time it adopted the LCR, the EPA believed a lead service line replacement program would be effective in reducing excessive lead exposures. EPA originally proposed a standard of 3 ppb for lead service line removal, but adopted the 15 ppb standard for administrative simplicity as consistent with other obligations under the rule. Nonetheless, EPA concluded that the 3 ppb level represented the significant contribution of lead lines to lead contamination, warranting a lead line removal policy.⁵⁹

II. Implementation of the Lead and Copper Rule in the District of Columbia

A. RESPONSIBLE AGENCIES

Although WASA is the agency directly responsible for delivering water within the District, a number of other authorities are involved and can or do affect directly the quality of water delivered to District residents. The Corps withdraws source water from the Potomac River at Little Falls, treats that water at the Dalecarlia Waterworks, and sells the water to WASA, Arlington and Falls Church, Virginia. The Corps also stores treated water at several reservoirs in the District. In addition, DOH has an implied, if not specific, obligation to protect the public from excessive lead in water that arises from its responsibility to implement a lead poison program. Finally, as discussed above, EPA maintains authority to oversee compliance with the LCR, in the absence of a grant of primacy to the District.

I. WATER AND SEWER AUTHORITY OF THE DISTRICT OF COLUMBIA

WASA was created in 1996 as an independent, multi-jurisdictional utility providing drinking water distribution in the District, wastewater conveyance and treatment services to customers in the District, wastewater conveyance and treatment to wholesale users in Montgomery and Prince George's Counties in Maryland and Fairfax and Loudon Counties in Northern Virginia. Authority for its operation within the District is in the D.C. Public Utility Code ("PUC"). Significant goals to be met in its creation were separation from the District government, including separation from the District's General Fund, allowing for suburban representation on the WASA Board, and allowing for an adequate financial reserve and ongoing financial viability.⁶⁰ The emphasis was on structural and financial goals, rather than public health goals.

The PUC establishes WASA as "an independent authority with secure funding separated from the District's General Fund."⁶¹ It is "a corporate body, created to effectuate certain public purposes, that has a separate legal existence *within* the District government."⁶² Accordingly, WASA can "sue and be sued."⁶³ It makes by-laws, rules and regulations for the administration of its business affairs.⁶⁴ It can undertake "any public project, acquisition, construction, or any other act necessary to carry out its purposes" and can "maintain, repair, operate, extend, enlarge, investigate, design, construct, and improve the water distribution and sewage collection, treatment, and disposal systems."⁶⁵ The D.C. Council delegated to WASA authority to issue revenue bonds to finance WASA projects. WASA revenue bonds are not general obligations of the District and do not constitute debt for purposes of the District's borrowing and spending.⁶⁶ Relevant to this analysis, WASA has the power to "purchase and distribute potable water to the inhabitants of the District" and to "develop policies related to the proper use and distribution of water to households and public and private institutions during times of normal consumption and during emergency situations."⁶⁷ WASA's emergency authority appears limited to allocation of water in times of shortage.

WASA is run by an 11-member Board of Directors, six of whom are District residents appointed by the Mayor (only four of whom can be D.C. employees).⁶⁸ The other five members are Virginia and Maryland residents.⁶⁹ The Board is responsible for

developing policies for the “management, maintenance and operation” of water distribution and sewage treatment, as well as the adoption and publication of rules and regulations governing the operation of the water distribution and sewage treatment systems.⁷⁰ Board Members may be removed by the Mayor for “misconduct or neglect of duty” or “for other good cause.”⁷¹

Among its “goals and objectives” are “to expedite the repair, replacement, rehabilitation, modernization, and extension of existing water distribution and sewage collection, treatment, and disposal systems, including the financing, on a self-sustaining basis, of capital and operating expenses relating thereto”; and “to enhance and protect water resources in the District and the Metropolitan Washington area by reducing pollution to adjacent streams.”⁷²

Section 34-2601 of the D.C. Code requires WASA to “protect and enhance the public health, welfare, and safety of the citizens of the District of Columbia” by preparing a “detailed and comprehensive” analysis of the impact on the public health, safety, and environment before undertaking any project, and to file an environmental impact statement.

Title 21 of the D.C. Regulations covers Water and Sanitation. The regulations are related to WASA’s operation as a utility and provide for establishing service, metering, billing and rate-setting and for WASA employment and procurement practices. Title 21 also provides the General Manager of WASA authority to inspect any premises to ensure protection of the integrity of the water utility system from prohibited cross-connections.⁷³

WASA also has authority, pursuant to the Wastewater System Regulation Act, D.C. Code sec. 8-105.01 *et seq.*, to administer and enforce the wastewater pre-treatment program required by the Federal Clean Water Act. WASA is required to comply with the federal SDWA requirements.

2. DEPARTMENT OF HEALTH OF THE DISTRICT OF COLUMBIA

DOH is the District agency specifically authorized to regulate provision of health services and to implement and ensure compliance with certain federal and District laws regarding environmental protection. Specifically, DOH has exclusive authority to:

Regulate actions that affect the physical environment and ensure compliance with applicable federal and District law and rules that govern the uses and practices that affect the physical environment, including air resources management, water resources management, stormwater management, soil resources management, hazardous waste, pesticides, *lead poison program implementation*, asbestos program management, underground storage tank regulation, aquatic and wildlife resources management, medical waste management, low-level radioactive waste control, and toxic chemical control.⁷⁴

The Code does not designate DOH as the agency to enforce WASA compliance with SDWA requirements. Neither does it define what the required “lead poison program” is;

however, the Code and regulations identify lead paint abatement and lead testing requirements that appear to be the responsibility of DOH. Regulations in Title 22 of the D.C. Code (Public Health and Medicine) prohibit certain uses of lead-based paint and require a physician who diagnoses or treats a case of “lead intoxication” to report the case to the Director (presumably the Director of the Department of Public Health or of the Department of Health). The Municipal Regulations adopting the federal requirements for accreditation, training and licensing of lead paint abatement contractors and trainers suggest that the District Department of Consumer and Regulatory Affairs is the responsible supervising agency; however, information about that program is available on the DOH website, suggesting DOH has implemented the program.⁷⁵

Chapter 10A of Title 7 of the D.C. Code (Human Health Care and Safety) imposes on health care providers an obligation to advise the parent or guardian of each child under six years of age served by that facility that the District requires periodic blood tests for lead poisoning, assuming that parental consent is not withheld.⁷⁶ The tests are required once when the child is between the ages of six and nine months and again when the child is between 22 and 26 months old. If a child older than 26 months has not been screened for lead levels, he or she should be tested twice before age six. The lab performing the tests is to send the results to the health care provider and to the Mayor, and the Mayor is to provide the D.C. Council an annual report of those lead screening results with recommendations based on or pertaining to the incidence and prevalence rates of childhood lead poisoning in the District. The Mayor has not yet issued rules to implement the requirement.

Although DOH does not have specific authority to regulate or control lead levels in drinking water under current law, its authority to respond to the threat of lead contamination from lead paint and its responsibilities as the recipient of lead testing information clearly put DOH in a position to assist WASA in responding to the drinking water problems.

3. UNITED STATES ARMY CORPS OF ENGINEERS

The source of water for the District is the D.C. Aqueduct, a system owned and operated by the Corps. WASA, Arlington County and the City of Falls Church purchase water from the Corps. The Corps has been responsible for constructing and operating the system to obtain and distribute water from the Potomac River since the mid-1800s. Major components of the present water supply and distribution system were in operation by 1928.⁷⁷ The Corps’ authority to own and operate the D.C. Aqueduct system arises from a March 3, 1859, Act of Congress and is codified at 40 U.S.C. § 9501.⁷⁸ The SDWA amendments of 1996 authorized the transfer of ownership, operation, maintenance, and management of the D.C. Aqueduct to an independent entity either established by the District, Arlington County, and the City of Falls Church, or already in existence. Congress also specifically consented to the Aqueduct customers’ entering into an interstate agreement or compact as required.⁷⁹ Ultimately, the Aqueduct’s customers elected not to enter into an interstate compact to own and operate the Aqueduct, and none of the existing entities that could have assumed control, such as Fairfax County or WASA, was acceptable to the other parties.

Instead, in May 1997, the Corps, WASA, Arlington County, and the City of Falls Church entered into a Memorandum of Understanding (“MOU”) regarding governance of their interactions. Under the MOU, Arlington, Falls Church, and WASA each contributes a representative to a Wholesale Customers Board (“Board”) which meets regularly to communicate with the Corps regarding “availability, quality, cost and other matters” related to the service the Corps provides. The Board is not a political subdivision of any of the members and cannot sue or be sued. It cannot enter into contracts or acquire property. The chairmanship of the Board and of the Technical Committee of the Board rotates annually. The Board is authorized to provide periodic evaluation reports concerning the General Manager of the D.C. Aqueduct to the District Commander of the Corps’ Baltimore District, which has supervisory authority over the D.C. Aqueduct.

The Corps annually submits to the Board its proposed operating budget and revised capital plan. If any capital item represents an alternative that is not the least-cost alternative, the Corps has to provide an explanation for selection of that alternative. The Corps must adopt the recommendations of the Board for revisions to the budget and capital plan, unless it documents the necessity of its unrevised proposal as “necessary to comply with applicable laws, regulations or permits, . . . to comply with contractual agreements or . . . to protect the public health.”⁸⁰ Unlike other water utilities, however, the Corps is not allowed to borrow money for improvements. Furthermore, WASA is responsible for payment of 75 percent of the Aqueduct’s operating and capital costs and must follow federal procurement guidelines and fund capital projects on a pay-as-you-go basis.⁸¹ The balance of its operating and capital expenses is paid by its Virginia wholesale customers. Accordingly, D.C. Aqueduct customers already fully fund its operating and capital costs.⁸²

Although WASA is responsible for SDWA compliance in the District, Section 129 of the SDWA Amendments of 1996 makes clear that the Corps also has direct responsibility for SDWA compliance.⁸³ The 1996 amendment to the SDWA extended the applicability of SDWA requirements to any federal agency “owning or operating any public water system,” and required any such agency to

comply with . . . all Federal, State, interstate, and local requirements, both substantive and procedural (including any requirement for permits or reporting or any provisions for injunctive relief and such sanctions as may be imposed by a court to enforce such relief), respecting . . . such public water systems . . . in the same manner and to the same extent as any person is subject to such requirements, including the payment of reasonable service charges. The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, all administrative orders and all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations. The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order or civil or

administrative penalty or fine referred to in the preceding sentence, or reasonable service charge).⁸⁴

The EPA Administrator also can impose penalties for noncompliance.⁸⁵ In extending the applicability of the SDWA requirements to federal agencies, Congress also specified that any penalty assessed against the D.C. Aqueduct would not be passed along to the Aqueduct's customers.⁸⁶

B. THE CURRENT LEAD AND COPPER RULE IS NOT ADEQUATELY PROTECTING THE PUBLIC HEALTH

I. SHORTCOMINGS OF THE CURRENT LCR

The current LCR, promulgated by EPA in 1991 under the SDWA, is not protecting the public health. Implementation of the current LCR has offered many opportunities for abuse — abetted by complacency of the regulatory authorities — that, among other things, compromise the reliability of its water sampling and disclosure requirements. In the District, the disclosure of elevated lead levels revealed some serious flaws in the current regulation. For example:

- ❖ *Data Manipulation:* In 2001, it appears that WASA did not submit samples to EPA in an effort to remain in technical compliance with the regulation,⁸⁷ thereby avoiding more costly and stringent measures called for in the LCR to reduce lead content in water. In subsequent years, WASA has attempted to take additional samples beyond the required complement of 100, in an effort to locate residences with lead levels below the Action Level. These samples were then included in an effort to dilute effectively the overall test results from the sample population.⁸⁸
- ❖ *Public Disclosure is Misleading:* If less than 10 percent of tests results of a sampling period are above the Action Level, utilities are not required to notify residents with individual test results in excess of the Action Level that they have elevated levels of lead in their drinking water. In addition, insufficient sampling renders the actual scope of lead exposure unknown.
- ❖ *No Sense of Urgency:* Following promulgation of the LCR in 1991, the Corps and WASA's predecessor selected lime as a corrosion control treatment largely on cost considerations. EPA approved the use of lime only years later by which time the Corps was moving towards an alternative treatment.⁸⁹ Furthermore, by its very terms, the schedule of sampling, lead service line replacement and even public disclosure called for by the LCR demonstrates no sense of urgency. For example, disclosure is not triggered unless the Action Level is exceeded; however, the utility has up to 60 days following the exceedance to make the required disclosure.⁹⁰
- ❖ *Delayed and Incomplete Lead Service Line Replacement:* Under the current LCR, when more than 10 percent of samples exceed the Action Level utilities are required to replace 7 percent of their lead service lines per year.⁹¹ Replacement, however, may be halted when subsequent sample results drop below the Action Level.⁹² During the summer of 2003, WASA undertook more expansive testing

in an effort to curtail its lead line replacement obligations. Ironically, during this period, approximately 4,000 of 6,000 homes sampled exceeded the lead Action Level.⁹³ In addition, utilities may sample water in service lines and if the water tests below the Action Level, they do not have to replace the line physically, but rather may count the line as “replaced” for purposes of the 7 percent requirement.

The LCR also has not taken into account recent medical studies indicating that exposure to lead at very low doses can have significant adverse health effects, especially among children, thereby rendering the 15 ppb Action Level an ineffective trigger to address these risks.

Meaningful enforcement policies may potentially encourage compliance,⁹⁴ but such efforts do not solve many of the problems identified above, because they are aimed at ensuring compliance with the LCR as currently written. For example, the lack of obligations to notify individual residents of results in excess of the Action Level when the 10 percent trigger is not met cannot be cured under the current law. In any event, EPA’s record of enforcing this rule is disappointing, perhaps because drinking water regulations generally (and lead in drinking water specifically) are simply not EPA enforcement priorities.⁹⁵ EPA has acknowledged the significant nonreporting of violations has overstated the current state of compliance with the LCR, a result further exacerbated in the context of pervasive abuses of data.⁹⁶ EPA also has conducted little independent research on lead in the drinking water supply since promulgation of the rule. Even assuming a more vigorous enforcement effort, however, current law does not address the failure of the rule to reach either residents with lead levels above 15 ppb where fewer than 10 percent of the samples exceed the Action Level, or residents with lead levels under 15 ppb.

These problems are not limited to the District

but are occurring nationwide.

These problems are not limited to the District but are occurring nationwide. Recent federal legislation introduced by Senator James Jeffords of Vermont and others in the Senate and Congresswoman Eleanor Holmes Norton and others in the House attempts to address some of the LCR shortcomings. The Lead Free Drinking Water Act of 2004 would require EPA to revise the national standards for lead in drinking water to ensure that vulnerable populations such as infants, children and pregnant women would be better protected.⁹⁷ The legislation does not provide guidance to EPA on how to revise the current regulations, however. At the same time, the legislation would require better public notification when a water system has high lead levels, would increase water testing and remediation in schools and day-care centers, would provide additional federal funds to upgrade water distribution systems, and would institute a complete ban on lead-containing plumbing fixtures and components. These also are helpful reforms, but in our view any legislation should begin with a wholesale review of the entire current program.

2. SAMPLING AND REPORTING METHODS CAN BE ABUSED

For metropolitan areas like the District, the LCR requires utilities to sample tap water at 100 residences in their water distribution system and submit the sampling results to EPA or relevant state authorities.⁹⁸ If more than 10 percent of the samples are above the Action Level,⁹⁹ the utility is required to take steps to remedy the excess lead problem, including notifying the public that consumes the affected water¹⁰⁰ and replacing a certain percentage of lead service lines each year.¹⁰¹ To ensure integrity, the samples collected are required to meet certain criteria regarding their source and handling practices before and during testing and, failing that, can be invalidated upon petition to EPA or state authorities. Although the purposes behind these requirements are laudable, the applicable LCR provisions invite abuse through the unilateral invalidating of samples by water authorities, underreporting of individual samples well in excess of 15 ppb if overall fewer than 10 percent of samples exceed the Action Level, or oversampling to comply with the Action Level, thereby avoiding additional obligations. Further, individual lead service lines can be deemed “removed” if the water flowing through those lines is sampled and results of that sampling fall below the Action Level. These shortcomings in the LCR compromise the effectiveness of its regulatory scheme and the intended protection of consumers against lead in drinking water.

Many of the concerns about sampling and reporting noted above were evident in the current situation in the District of Columbia.¹⁰² Specifically, over the course of the 2000-2001 monitoring period (which ran from July 1, 2000, to June 30, 2001) WASA sampled the drinking water at approximately 50 locations in the District for lead.¹⁰³ WASA apparently became aware that close to 10 percent of the samples of the first group it received exceeded the 15 ppb Action Level.¹⁰⁴ Prior to submitting the final results of the monitoring period to EPA, WASA received seven additional samples, all of which exceeded the Action Level.¹⁰⁵ The inclusion of these additional samples with the first set of samples would have resulted in triggering disclosure and other requirements under the LCR.¹⁰⁶ Yet, instead of submitting results taking into account all of the samples, WASA transmitted to EPA sample results that did not take into account five of the additional seven samples that had tested above the lead Action Level.¹⁰⁷ The five excluded samples with test results had lead concentrations at least double the Action Level, and some were as high as 100 ppb.¹⁰⁸ Because the samples were excluded, WASA claimed exemption from further lead mitigation requirements for that monitoring period.

Subsequent investigation has led to the conclusion that there may not have been any valid reason for excluding these additional samples. At least one WASA employee suggested during an investigation that the samples were invalidated because they were collected improperly as prescribed in the LCR,¹⁰⁹ but there is no evidence that WASA sought approval of EPA as required under the regulations before invalidating the samples.¹¹⁰ Under the current regulation, the regulated utility has an incentive to ensure that sampling falls below the Action Level. The effect of excluding these samples was that steps to improve the elevated lead situation were delayed by at least a year (until a new monitoring period began and new samples were required) and individual residences with lead levels well above 15 ppb were unaware of the elevated levels of lead in the drinking water delivered to their homes.

These abuses are not limited to the District and pose a nationwide challenge to the effectiveness of the LCR. As reported in *The Washington Post*, other cities appear to have manipulated data to avoid the potentially significant costs of noncompliance:

New York City withheld hundreds of test results from regulators that, if counted, would have signaled lead levels in excess of the Action Level in two of the past three years.

Philadelphia unilaterally invalidated a high test result in 2002 that exceeded the Action Level and has not tested since then.

Lansing, Michigan, unilaterally invalidated high test results in 2002 that exceeded the Action Level. The city took the requisite number of tests the following year and again exceeded the Action Level, but supplemented the sampling pool with tests from homes with low lead levels to remain in technical compliance, and has not tested since then.

Boston attempted to invalidate high test results that would have exceeded the Action Level in 2003. Massachusetts authorities initially endorsed the idea but later, in the wake of publicity about the District's problems, refused to allow it. Subsequent review demonstrated that a large portion of the homes in the community being testing are not at high risk for lead contamination, as required under the testing requirements of the LCR.¹¹¹

These disclosures have led to a call by some in Congress to have the EPA Inspector General investigate these allegations. More significantly, we expect heightened congressional interest and attention to this subject in the next year as Congress considers modifications to the law proposed by Senator Jeffords and Congresswoman Norton.

3. DISCLOSURE TO THE PUBLIC WAS MISLEADING

The current LCR requires that the utility serving a community where more than 10 percent of samples have lead levels exceeding the Action Level to distribute notices to consumers informing them of the elevated lead in their drinking water and outlining steps that they can take to reduce the risk of drinking lead-containing water.¹¹² This notice, which must be sent out within 60 days of exceeding the Action Level, may be included in the utility bill, or if that is too burdensome or a bill was not scheduled to be sent out within 60 days, in a separate mailing to consumers.¹¹³ Although the requirement appears intended to ensure that affected residents receive timely and standardized information regarding elevated levels of lead in their drinking water, evidence suggests that the current law has had the opposite effect.

For example, during the routine testing performed between July 1, 2000, and June 30, 2001, elevated levels of lead were found in the District drinking water after the District tested 50 homes. WASA invalidated some of the initial sampling results and retested several homes. After retesting, WASA ultimately submitted results to EPA for the year that only four homes, or 8 percent of the sample, exceeded the lead Action Level. According to WASA, therefore, it was no longer in violation of the Action Level and was not required to initiate the public disclosure.

WASA's next testing period, from July 1, 2001, to June 30, 2002, resulted in 26 out of the 53 homes with levels of lead exceeding the lead Action Level. Shortly thereafter, WASA drafted the "Living Lead-Free in D.C." brochure which was mailed to WASA's

consumers in October 2002. The brochure, among other things, stated that “some houses in the community have lead levels above the EPA Action Level of 15 ppb;”¹¹⁴ “lead levels in some houses or buildings can be high”¹¹⁵; and the brochure instructed consumers to flush taps for 15 to 30 seconds before use or for 10 minutes if serviced by a lead service line.¹¹⁶ Around the same time, WASA released its first public service announcement. These disclosures were not in compliance with the regulations. First, WASA did not use the required regulatory language notifying the public of the elevated levels. Second, WASA did not place the alert in all the required forums — bill inserts, newspapers, etc. Third, WASA did not repeat the service announcements in Spring 2003, as required. And in any case, as later discussed, even if WASA had been in full compliance, the public is not well served by current standards.

- **WASA’s Living Lead-Free in D.C. Brochure**

WASA touted the “Living Lead-Free in D.C.” brochure as in compliance with the LCR, but EPA and others have found it failed to use all the mandatory language.¹¹⁷ Moreover, the brochure failed to express a sense of urgency. The important message — that the District’s drinking water contained elevated levels of lead — was lost in the lengthy, 12-page format of the brochure. The message was diluted further because the high levels of lead in the water were not made prominently the focus of the brochure; instead, on the first page the brochure stated that, “every single day, WASA reliably delivers safe drinking water that meets or surpasses EPA requirements.” Having strategically placed this message before any statements regarding elevated levels of lead, WASA greatly reduced the importance a reader would have placed on any of the subsequent disclosures of elevated lead levels. By altering several words or phrases and rearranging parts of the mandatory language, WASA’s message about elevated lead levels was too vague and did not alert the public to the importance of the issue. For example, WASA never expressed that the elevated lead levels were of concern.¹¹⁸

WASA’s own personnel did express concern about the way the information was presented in the brochure. They noticed that dispersal of LCR-specific language among other lead-related information did not make it clear that WASA had detected a lead problem in the drinking water. Nor did it clearly explain that the District’s drinking water had exceeded the 15 ppb lead Action Level.¹¹⁹

Crisis management professionals have criticized the content of WASA’s brochure. On April 7, 2004, Jody Lanard, an expert in risk communication, testified before the Senate Environmental and Public Works Committee. As part of her testimony, among other things, Lanard criticized WASA’s public outreach program. She noted the “Living Lead-Free in D.C.” brochure did not adequately inform the community that the lead issue was a problem for the public at large.¹²⁰ Nor did it alert the public that there were new reasons to take the information on elevated lead levels seriously.¹²¹ Indeed, according to Lanard, nowhere in the brochure was it suggested that the elevated levels were a surprising change in WASA’s findings and that something must be done.¹²²

In addition, Lanard made the following observations:

- ❖ The title of the brochure made it sound as if WASA’s communications department decided to use “National Lead Awareness Week” as a news piece for sending out

information about what to do generally about lead — from paint, dust and water rather than as part of its required public education program. This diluted the message that lead in the water is a significant health concern.

- ❖ The picture of a smiling pregnant woman holding a glass of water on page 2 gave the impression that the water posed no health risks — especially not to a vulnerable, pregnant woman.
- ❖ The placement on page 3 of the notice that “lead results indicate that although most homes have very low levels of lead in their drinking water, some homes in the community have had lead levels above the EPA Action Level of 15 ppb” suggested it was not an important fact. In addition, because there was no explanation of what it meant if lead levels were above the 15 ppb Action Level, it did not signal a concern.
- ❖ The placement on page 10 of the notice that there was a problem with elevated levels of lead in some homes should have been on the first page to alert the public of the problem.
- ❖ WASA’s use of indefinite words in the brochure — “may have,” “some households,” and “increased levels” sounded evasive and was likely to evoke both alarm about the extent of the exposure, and anger about an attempt to minimize it.
- ❖ WASA’s practice of communicating “facts” to the public was not enough. WASA did not present all the facts — it did not include numbers of houses affected by the lead problem or the degree of lead elevation. Communicating only “facts” is not good crisis communication — listening to the public and acknowledging human feelings is an important part of crisis communication.

These criticisms underscore the point that the LCR-required language, even if used as anticipated, does not effectively communicate to the public the problem of elevated levels of lead in the drinking water. Indeed, the LCR does not direct how the required language should be laid out and invites the use of creative formatting to dilute its effect. In addition to the required language, the LCR fails to establish effective communication in yet another way: it requires no action to be taken when lead levels are below 15 ppb. Because it is well established that no level of lead in the drinking water is safe, people living in residences with water samples testing at levels less than 15 ppb should be required to receive notice and information about the health implications of those results.

- **Public Service Announcements**

WASA began its public service announcements in October 2002 on at least five of the radio and television stations with the largest audiences that broadcast to the community served by WASA. On October 30, 2002, WASA sent its public service announcement to the editorial departments of *The Washington Post* and *The Washington Times* and seven television stations.¹²³ On October 31, 2002, WASA delivered the public service announcement to 19 radio stations.¹²⁴ Although WASA was required to deliver the public service announcement to the media every six months for as long as test results exceeded the Action Level, WASA did not repeat the announcement in Spring 2003.¹²⁵

Additionally, WASA did not comply with the LCR because its announcements did not contain all of the mandatory language. Further, WASA's announcements downplayed the health issue:

- ❖ Rather than stating, as required, “unhealthy amounts of lead can enter drinking water,” WASA stated that “potential elevated levels of lead can enter drinking water.”¹²⁶
- ❖ WASA omitted required language urging consumers to have their water tested and required pricing information for water testing.

In Summer 2003, WASA tested 6,118 homes and found 4,075 homes (or two-thirds) exceeded the lead Action Level. WASA also found 2,287 of these homes had lead levels exceeding 50 parts per billion and 157 of the homes had levels exceeding 300 parts per billion. WASA did not send test results to many of the 6,118 homes that volunteered for the Summer 2003 sampling program until early November 2003, even though the results were known to WASA months earlier. Instead, WASA issued a 2002 Water Quality Report that notified consumers of elevated lead levels. As in the “Living Lead-Free in D.C.” brochure, WASA informed consumers that “some houses have levels above 15 ppb,”¹²⁷ but this time WASA instructed consumers to flush the taps for 10 minutes and alerted residents that pregnant women, nursing mothers and children under six should drink only filtered water.¹²⁸ The Report used mild and misleading language to notify the public that lead concentrations exceeded the 15 ppb lead Action Level.¹²⁹ For example:

- ❖ The cover of the report stated “Your Drinking Water is Safe.”
- ❖ The first page of the report states “we are once again proud to report that the District’s drinking water met or surpassed all requirements of the Safe Drinking Water Act every single day in 2002.”
- ❖ The first discussion in the seven-page report of lead in the drinking water was on page 3.
- ❖ The discussion of the elevated lead levels was muted: the report stated: “During 2002, concentrations found in these sampling programs exceeded EPA’s Action Level based on analysis of 53 samples collected with the assistance of customers. WASA has embarked on remedial programs to meet EPA’s requirements. Infants, young children, and pregnant women tend to be more vulnerable to lead than the general public.”
- ❖ On page 5 of the report, WASA provided a chart of regulated contaminants and corresponding concentrations in the District’s drinking water stating that “26 samples out of 53 [were] above [the 15 ppb lead Action Level]. In a footnote, the report explained that “EPA regulations require that corrective action be taken if greater than 5 of 50 samples exceed the Action Level.” No corrective action was cited, if any occurred.
- ❖ The chart also noted that 90 percent of samples had lead concentrations less than or equal to 49 ppb and that typical sources of contaminants include corrosion of household plumbing systems.

This report did not constitute fair, effective communication. Nonetheless, EPA approved the report prior to its publication, and it permitted WASA to de-emphasize the impact of elevated lead levels by using mild cautionary language and by emphasizing the safety of the drinking water.

- **2004 Crisis Communications**

Most of the District's public officials and the public did not learn of the most recent discovery of elevated levels of lead until *The Washington Post* broke the story on January 31, 2004. Following that debut, *The Washington Post* published follow-up stories in which WASA and various other agencies attempted to educate the public on the lead issue. A review of these articles reveals that the public was not receiving a consistent message.

- ❖ In a January 31, 2004 article, WASA suggested consumers flush their taps for 30 seconds to one minute.¹³⁰
- ❖ On February 3, 2004, *The Washington Post* published a story in which representatives of EPA, the Centers for Disease Control and Prevention and Harvard University expressed divergent opinions on the health risks attributable to lead.¹³¹ Some experts observed that any exposure to lead is serious, while others suggested that extraordinary amounts of water would have to be consumed before it would be dangerous.
- ❖ On February 5, 2004, WASA instructed consumers to flush their taps for one minute or longer.¹³² Four days later, WASA instructed consumers in a letter to flush their taps for 15 to 30 seconds.¹³³
- ❖ On February 19, 2004, the flushing instruction was revised again — WASA extended the flushing time to 10 minutes or longer.¹³⁴
- ❖ Six days later, DOH urged pregnant women and children under six to immediately stop drinking the water in a *Washington Post* article.¹³⁵
- ❖ In a February 26, 2004, letter to consumers, WASA provided safety information from the DOH recommending the use of tap water for drinking or cooking only after 10 minutes of flushing from high-use activities, *e.g.*, showering or laundry, and then flushing the faucet for an additional 60 seconds before drinking the water.¹³⁶ The letter also stated that women who are pregnant or breastfeeding should not drink water from homes with lead service lines or use it to prepare infant formula or concentrated juice.¹³⁷

4. PROBLEMS WITH LEAD SERVICE LINE REPLACEMENT

Although the LCR requires that communities with lead concentrations exceeding the Action Level in greater than 10 percent of sampled homes must replace 7 percent of their lead service lines each year, under the rule this obligation can be rendered ineffective. Following the 2001-2002 monitoring period, WASA was required under the LCR to replace 7 percent of its lead service lines because the system was not in compliance with the Action Level. WASA sampled the water in individual lead service

lines by drawing it directly from the portion of the service line that is between the main water level and the individual property line. If the average of the sample results for a particular line fell below the Action Level, WASA deemed that particular line as “replaced” for purposes of the LCR replacement rule.¹³⁸ With sampled lines testing below the Action Level, WASA was thereby able to reduce dramatically the number of lead service lines actually replaced. This practice had previously been authorized by EPA, and it was permitted in this instance.¹³⁹ This practice should be changed. The end result is that WASA was in technical compliance with the LCR even though less than 7 percent of the lead service lines were actually replaced during the compliance period. This “testing in lieu of replacement,” although an accepted practice under the auspices of the LCR, means that more residents are exposed to elevated lead levels and may not be aware of that exposure. Because the actual lead service line is not in fact being replaced, the line may start to leach lead after being tested, even though at that point it would be deemed in compliance with the law.

Because the actual lead service line is not in fact being replaced, the line may start to leach lead after being tested, even though at that point it would be deemed in compliance with the law.

The practice of testing in lieu of replacement also is subject to sampling abuse under the current LCR. A utility can sample as many lead service lines as possible to find enough “qualifying” lines that can be deemed replaced. With approximately 23,000 lead service lines in its distribution system, WASA would have to effectively “replace” 1,610 lines each year it was in noncompliance with the lead Action Level. The more lines that can be deemed replaced as part of this oversampling, the easier it is to achieve the required 7 percent replacement standard when the Action Level is exceeded. WASA arguably engaged in such oversampling during lead line replacement related to the 2001-2002 LCR monitoring period.¹⁴⁰ Knowing that it could sample lines and count lines whose sampling average did not exceed 15 ppb as “replaced” for purposes of the rule, and given that it was faced with a shortened deadline to replace the correct number of lines, WASA conducted widespread sampling in what some have characterized as an effort to locate as many qualifying lines as possible.¹⁴¹ For example, once it became clear that more testing would be needed to find service lines with lead levels below the Action Level, at least 4,700 additional tests were performed.¹⁴² If these practices constitute compliance with the rule, we believe the rule needs dramatic reform.

In addition to hampering the lead service line replacement obligations, the current LCR creates no expedited schedule for the replacement of the lines. As mentioned above, communities exceeding the Action Level are required to replace 7 percent of their lead service lines each year. Furthermore, the utilities serving those communities have 12 months from the time the Action Level is exceeded to notify the regulating body in writing that they have conducted an evaluation to identify initially the number of lead service lines in the system and propose a schedule for replacing 7 percent of the lines.¹⁴³

Even with actual replacement, at the required rate it would take over 13 years to fully replace all lead service lines operating within any water distribution system, assuring that the community would be out of compliance with the Action Level the entire period. Once subsequent sampling results show a return to levels below the Action Level, however, the replacement obligation ceases.¹⁴⁴ Meanwhile, children drinking water from areas that are the last to have lead service lines replaced would be exposed to lead from nearly infancy to adolescence. The harm, based on medical evidence discussed below, could be significant.

Recently, WASA has committed to a six-year effort to replace that portion of the lead line in its service area. This amount will be funded through its \$1.6 billion Capital Improvement Fund, which is ultimately borne by increased fees paid by ratepayers beginning in October 2005. Homeowners, however, will bear the cost of replacing the section of the line on private property, at a cost of approximately \$2,500 per home. Loans are available for those who cannot afford to replace their lines but wish to participate. The total cost of this effort is approximately \$300 million for WASA and an additional \$50 to \$60 million for homeowners based on the current inventory of approximately 23,000 known or suspected lead lines.¹⁴⁵

According to corrosion and other experts, partial lead line replacement, however, poses potential harm to public health as it can exacerbate existing problems with lead due to physical disturbance of the pipes and can create a galvanic corrosion condition due to the interaction of two different metals.¹⁴⁶ As noted above, only a handful of homeowners have volunteered to incur the expense of WASA's program. The emphasis on partial line replacement comes in part from WASA's contention (echoed by other utilities) that it does not have the legal authority to replace the portion of lines on private property. This concern stems from a 1994 federal appeals court decision that vacated a part of the EPA's final rules under the SDWA promulgating national primary drinking water regulations for lead.¹⁴⁷

The provision at issue allowed EPA to include the portion of a water service line up to the wall of a building (essentially under private property) as part of the service line under the "control" of the public water system utility. The United States Court of Appeals for the District of Columbia held that the EPA violated the Administrative Procedure Act by not providing adequate notice and opportunity for comment on this part of the rule.¹⁴⁸ In vacating this part on procedural grounds, however, the court did not decide the substantive issue of whether EPA's inclusion of the entire lead service line as part of the utility's responsibility was in violation of the SDWA.¹⁴⁹ Even so, in subsequent rulemakings, EPA did not include the portion of water service lines running under private property within the definition of the lines under the "control" of the public water system utility, out of concern for delay in implementing the LCR.¹⁵⁰

Certainly, utilities have authority to repair or replace service lines posing hazards (arguably creating an emergency condition) even if they are on private property. The SDWA itself provides that states in jurisdictions with primacy can invoke such emergency authority.¹⁵¹ Furthermore, in 1991, EPA conducted a study evaluating the extent of authority over publicly owned water systems in Boston, Chicago, Dallas, Denver, Los Angeles and other large cities. In the majority of cases, the water system retained access to virtually all

property served by the system and reserved the right to perform work on privately owned service lines.¹⁵² EPA should remove all doubt on this issue and move promptly to revise the rule as originally promulgated through a new rulemaking. Alternatively, the District can enact such express authorization now under its emergency powers or upon receipt of primacy. That authority should include making mandatory replacement of the lead lines on private property. At a minimum, WASA should bear the expense of replacement for low-income homeowners; the remaining homeowners should be billed directly.

Accelerated and complete lead line replacement is an entirely attainable goal. The City of Madison, Wisconsin, had recurring lead in its drinking water at levels exceeding the Action Level. After several failed attempts at using corrosion inhibitors, it decided to replace all lead service lines within its distribution system. The plan has a 10-year lifespan and is enforced through City ordinance. Highlights of the program include a consumer education program, follow-up sampling to verify the success of the program, and the reimbursement to customers for half of the expense of replacing of lines on private property. Deferred-payment loans are available for low-income residents, and the City has set up a lead hotline to answer consumers' questions about the program and the effects of lead. The project is funded through a surcharge on customers' bills that totals approximately \$5 per year.¹⁵³

5. "LEAD FREE" METERS REGULATED UNDER THE LCR STILL CONTAIN SIGNIFICANT QUANTITIES OF LEAD

The LCR not only regulates lead in water supply lines but also the water meters used to measure water usage. Although many lead water meters are marketed as being "lead free," the SDWA actually permits these meters to include up to 8 percent lead-containing parts.¹⁵⁴ The purpose of this standard was to allow for easier and less expensive production of new water meters because metal containing at least some lead is more malleable. Therefore, new water meters containing lead are still being installed by water utilities. In 2002 and 2003, WASA installed over 100,000 new lead-containing meters throughout its system.¹⁵⁵

By contrast, California has addressed the problem through legislation and related lawsuits. The Safe Drinking Water & Toxic Enforcement Act of 1986, popularly known as Proposition 65, was passed by California voters to address concerns about exposure to substances (such as lead) causing cancer or reproductive harm. Proposition 65 prohibits, among other things, the manufacturing, distributing or selling of products that would cause public exposure to the substances through drinking water.¹⁵⁶ It also requires manufacturers to place warnings on products that may expose persons to these substances.¹⁵⁷ A series of settlements between faucet manufacturers and private parties pursuant to Proposition 65 has led to the removal from the California marketplace of nearly all water service parts containing lead components. One particular settlement in 2000 led to an agreement to discontinue the installation of residential water meters containing leaded brass alloys.¹⁵⁸ Another settlement in 1995 compelled manufacturers of water faucets to eliminate virtually all lead from their products and to place warnings on products that contain more than a certain amount of lead.¹⁵⁹ In addition, cities in California (most notably Los Angeles) purchase only lead-free water service components. Other cities committed to phasing out lead-containing water service parts include Bangor, Maine; San Francisco, California; Tampa, Florida; and Philadelphia, Pennsylvania.

Because of the developments in the enormous California market and the opening of new markets in other large metropolitan areas, companies that produce water meters have begun manufacturing more meter and water service parts that do not contain leaded brass alloys. The increased production has reduced costs and increased inventories of these components, making them more available to utilities than ever before. Although WASA has not yet adopted a policy of using lead-free water meters, California's direction in banning lead-containing water meters, the switch to truly lead-free water meters by other large metropolitan water utilities, the widespread availability of water service parts (including meters) that contain no leaded brass, and the evidence that it could cost only \$25.50/unit to switch to lead-free water service components (including the water meter), all argue for a change in WASA policy.¹⁶⁰

6. LIMITATIONS OF CORROSION CONTROL

The current LCR is premised on achieving optimal corrosion control in water distribution systems as the key to mitigation of lead exposure in drinking water.¹⁶¹ After exceeding the Action Level, a water system has six months to recommend to the regulatory authority one of three corrosion control treatment options it believes will be the optimal control for that system.¹⁶² Studies indicate, however, that corrosion control may not be as effective as once thought, and indeed is “hit or miss” when it comes to actually reducing lead levels of drinking water at residential taps.¹⁶³ One study has noted that there is only a slightly better than even chance that corrosion control will be successful.¹⁶⁴ In some cases, it actually makes the lead-leaching problem worse.¹⁶⁵ Moreover, corrosion-control additives may fail to reach all areas of the water distribution system. When this occurs, coating of the lead pipes may be effective close to the point in the distribution system where the corrosion inhibitor is added, but areas farther along or at the end of the distribution system receive little to no coating.¹⁶⁶ The result is potential blockages in the system caused by uneven coating, or the possible sloughing off of coating at points along the distribution system (which then exposes the lining of the pipe to corrosive water and raises the risk of lead leaching from the pipes into the water). Furthermore, corrosion control takes time to become effective while the chosen additive wends its way through the distribution system.

The process for selecting corrosion control under the LCR provides no sense of urgency to mitigate the public health threat of lead exposure. For instance, although the LCR was promulgated in 1991, it was not until 1994 that a corrosion-control additive was introduced by WASA's predecessor. WASA and the Corps, when faced with a choice of additives — either the more effective phosphates or the less expensive lime — chose lime, the cheaper of the two.¹⁶⁷ It became clear over subsequent years, however, that the lime was not effective in controlling the leaching of lead from service lines into the water. EPA did not give the Corps interim approval to use lime until 1997 and final approval until 2000, nearly six to seven years after WASA and the Corps made the initial decision to use lime.¹⁶⁸

By the time EPA granted final approval, however, WASA and the Corps had already tried some additional additives to control lead levels and, between 2001 and 2002, these agencies made the decision to switch to phosphates.¹⁶⁹ The passage of seven years to obtain EPA approval for the use of lime, at the same time that WASA — after years of

using lime — concluded that lime would not be an effective corrosion inhibitor, illustrates another inadequacy of the current corrosion control policy: considerable valuable time passed while consumers were being exposed to elevated levels of lead that could prove to be harmful to their health under a regulation designed to mitigate that harm.

C. RESEARCH ON HEALTH EFFECTS OF LEAD SINCE PROMULGATION OF THE RULE SUPPORTS SIGNIFICANT REVISIONS TO THE LCR

Since the inception of the LCR, EPA has recognized that drinking water contributes between 20 to 60 percent of total lead exposure for an average two-year old child.¹⁷⁰ EPA also has taken the position that there is no safe level of lead exposure.¹⁷¹ These findings remain unchallenged as the underpinning for the scientific case in favor of regulating lead in drinking water. Nevertheless, when the LCR was promulgated, EPA decided to adopt a system focusing on corrosion control (*i.e.*, limiting lead exposure) over establishing a MCL for lead (*i.e.*, eliminating lead exposure). In order to determine whether corrosion control was effective in water distribution systems, EPA set the 15 ppb lead Action Level.¹⁷² Although EPA received numerous comments urging it to establish a health-based standard centering on eliminating lead exposure in drinking water, and EPA itself cited studies describing the dangers of lead exposure to at-risk groups, EPA concluded that the goals of the SDWA were better served by adhering to an approach based on treating water to control corrosion in water distribution systems.¹⁷³ In other words, notwithstanding the clear and serious health threat, EPA's approach was to attempt to limit the threat, rather than eliminate it.

This system has been in place for over 13 years. Over time, and despite EPA's position that no amount of lead is safe, the public generally has been led to believe that drinking water is safe for consumption if sampling indicates lead levels below 15 ppb. Recent research and expert testimony, however, have shed new light on the adverse health effects to children from lead exposure, even at doses well below the 15 ppb Action Level. The findings suggest that the current system emphasizing corrosion control coupled with the 15 ppb Action Level is no longer adequate to address the dangers of lead exposure to small children and other vulnerable populations.¹⁷⁴

Higher blood lead levels were found to result in lower arithmetic and reading scores, lower scores on tests for nonverbal reasoning, and decreases in scores for short-term memory.

I. MEDICAL STUDIES SINCE PROMULGATION OF THE RULE INDICATE NEW HARMFUL EFFECTS FOR LEAD EXPOSURE AT VERY LOW LEVELS

Medical research conducted in the past 10 years indicates that children and adolescents are harmed by exposure to lead, even at doses well below the Action Level of 15 ppb. For instance, one study found that at blood lead concentrations less than 10 ug/dL, children can suffer from lower scores in several key cognitive function tests.¹⁷⁵ Higher blood lead levels were found to result in lower arithmetic and reading scores, lower scores on tests for nonverbal reasoning, and decreases in scores for short-term memory.¹⁷⁶ Even at levels below 5 ug/dL, children who had been exposed to lead were

found to have lower reading and arithmetic scores.¹⁷⁷ There is evidence that children with blood lead levels of below 5 ug/dL had consumed water in compliance with the 15 ppb Action Level.¹⁷⁸ A 2003 study found that lead exposure can affect IQ as well. The findings of that study suggest that each increase of 10 ug/dL in lifetime average blood lead concentration was related to a 4.6 point decline in IQ.¹⁷⁹ For children exposed to lead at levels below 10 ug/dL, the effect was even greater. An increase in lifetime average blood concentration from 1 ppb to 10 ppb was associated with a 7.4 point decline in IQ.¹⁸⁰ Similar conclusions regarding decreases in IQ associated with exposure to levels of lead prevalent in the environment have been documented.¹⁸¹ Low level lead exposure is associated with adverse behavioral changes in very young preschool children. This association may be particularly important for low-income children who also are at risk for other behavioral problems on the basis of common environmental factors.¹⁸²

A CDC advisory panel made up of health experts found substantial evidence that blood lead levels above 10 ug/dL are associated with adverse health effects in children and require medical intervention.¹⁸³ The CDC thus established a “level of concern” for blood lead levels of 10 ug/dL.¹⁸⁴ The World Health Organization has come to a similar conclusion.¹⁸⁵ In addition, congressional testimony provided by leading toxicologists has concluded that there is no safe level of lead exposure, and the eradication of lead exposure should be the primary goal rather than setting a safe level of exposure.¹⁸⁶ CDC has found that the percentage of children in the District with blood lead levels greater than 5 ppb were higher at addresses with lead service pipes than at addresses without lead service pipes.¹⁸⁷ When taken together, these findings indicate that the danger of lead exposure to children and adolescents is significant, even when ingested water contains lead levels well below the 15 ppb Action Level. Accordingly, the current Action Level is no longer — if it ever was — protective of those most vulnerable to lead exposure.

2. DISTRICT RESIDENTS FACE RISKS OF LEAD AT LEVELS BELOW 15 PPB

Recent blood lead level surveys and tests conducted in the District demonstrate that the District has a significant number of children with blood lead concentrations between 5 and 10 ug/dL. CDC found that the percentage of persons with blood lead levels of 5 ug/dL or more did not decrease in a statistically significant way from 1998 to 2000.¹⁸⁸ The CDC also has found that lead service lines contribute significantly to the elevated blood lead levels in children in the District.¹⁸⁹ A study conducted in the first half of 2004 found that most children under six years of age had blood lead levels lower than 5 ug/dL.¹⁹⁰ Nearly 40 percent of all children in the survey had blood lead levels between 3 and 9 ug/dL. These findings, however, provide little comfort when coupled with the recent medical evidence that an increase in blood lead level at points below 10 ug/dL can potentially be more damaging to vulnerable populations such as pregnant women and young children. For instance, an increase of lead levels between 3 and 9 ug/dL can indicate a drop of between 2 and 7 IQ points. In addition, recent studies concluded that children exposed to such lead levels are subject to risks in the form of lower reading and math skills and reduced short-term memory. Children with blood lead levels below 5 ug/dL also can experience negative behavioral or neurological effects from lead.¹⁹¹ With

no safe level of lead exposure, the presence of lead in drinking water in the District remains a serious problem.¹⁹²

Furthermore, the District blood lead level survey results may understate the risks locally. The sampling for the survey was conducted between February and July 2004 and includes multiple sampling of the same people. These results reflect the period of time after the elevated lead level crisis became well known through media coverage. It is therefore entirely possible that many of the test subjects had heeded warnings and stopped consuming tap water well before their blood test was conducted. Because the levels of lead in blood can drop noticeably after a person stops drinking contaminated water, many test subjects may have experienced higher blood lead levels in the past than survey results would indicate. In addition, experts have cautioned that the District's blood screening process could fail to take account of those children who are most exposed to lead, but who were not provided the benefit of lead screening.

D. SUMMARY OF LCR FLAWS

There is strong evidence that the current LCR is vulnerable to manipulation and, in some cases, abuse. Examples include the ability to invalidate samples for questionable reasons and to underreport samples that tested well above the Action Level. According to the many inquiries conducted and press accounts, these practices are widespread and, in some instances, condoned or ignored by regulatory authorities. In addition, the requirement to replace lead service lines can be thwarted through an EPA-approved practice of testing lines in lieu of replacing them, and the number of service lines tested can be increased to ensure that a utility finds enough lines that meet the testing in lieu of replacement requirements.

The LCR is focused on corrosion control standards. Corrosion control, however, has had mixed results nationwide for lowering the amount of lead in drinking water, and it takes considerable time, money and expertise to implement. During that time, residents may be exposed to dangerous levels of lead.

In any case, the current LCR significantly underestimates the number of lead lines not in compliance with the 15 ppb standard. In any event, EPA has long ago found that lead lines are a significant contributor to lead levels in water and originally proposed a 3 ppb trigger for service line removal. Although the 15 ppb Action Level became the trigger for removal of lead service lines for purposes of regulatory uniformity, the current law does not place the burden of compliance on the remedy most likely to achieve significant reductions in lead levels.

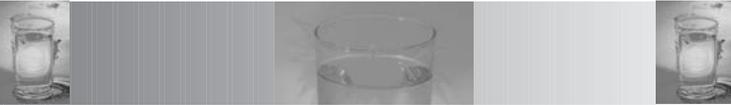
All of these considerations demonstrate that the current LCR is inadequate to protect the public health and should be reexamined to address its inherent deficiencies and the increasing risk of lead exposure. Increased enforcement of current law can curb some abuses but cannot reach many vulnerable populations who are omitted from this scope. For these reasons, continued adherence to the current LCR is counterproductive to the public health. Furthermore, we also submit that WASA's proposed partial lead line replacement will not adequately protect the public health.

A new approach should be adopted that favors a widespread sampling program where sampling results and remedial options are provided directly to consumers, regardless of

lead levels detected. Under this approach, sampling does not serve as a barrier to action and is not linked to service line removal or corrosion control. Rather, sampling would provide the District resident with the tools to address lead exposure in the home. Paralleling these reforms would be a focus on expedited full lead line replacement.

Because drinking water is not the only source of lead ingestion, the question arises whether an enhanced effort to control lead in drinking water by replacing all lead service lines within five years might reduce the funds available for reducing the ingestion of lead from other sources. We have found no serious argument that this could be the case. WASA's responsibilities, of course, concern drinking water, and not lead in household paint, in the air, or in food sources. The responsibilities for mitigating these other sources reside in whole or in part in federal agencies whose funding and programmatic priorities are determined wholly apart from those of WASA.¹⁹³ Even within the District agencies that share responsibilities with the federal government for the problem of lead in paint are funded wholly separately from WASA. WASA, by statute, funds itself through rates paid by users and through WASA's own borrowing authority. It would take a powerful and specific demonstration of severe trade-offs to warrant continued inattention to lead in drinking water, on the ground of possible effects on the mitigation of lead from other sources; and we do not believe that any such demonstration could be made.

Given the results of recent research on adverse health effects at very low exposure levels, removal of these lines will yield important public health benefits. The adverse health effects from lead are serious and are triggered by any exposure; and the effects are most virulent in children and pregnant women. The effects include reduced short term memory, impaired cognitive and behavioral functions and delayed development of reading and arithmetic skills, and may be more concentrated for people exposed to lead at levels well below 15 ppb than those exposed to lead above 15 ppb. The program we propose of shared responsibility between the utility and the resident will further enhance the reduction of lead levels in drinking water. Moreover, these changes would go a long way to ensuring that the LCR adequately protects vulnerable populations from lead present in drinking water. We believe the District could adopt many of these proposed revisions to the current regulations if it obtains authority to enforce the LCR as authorized by the SDWA. We also urge Congress to consider such changes to the regulations as it considers legislation to amend the SDWA. We discuss these recommendations in Part 2 Sections II (A) and (B).



PART 2.

ANALYSIS AND RECOMMENDATIONS

I. Primacy

A. THE DISTRICT SHOULD SEEK AND OBTAIN PRIMACY UNDER THE SAFE DRINKING WATER ACT TO IMPROVE ENFORCEMENT OF THE LEAD AND COPPER RULE

As shown above, the management of drinking water in the District of Columbia is the responsibility of: the Corps, which owns the D.C. Aqueduct and provides drinking water for the District; WASA; EPA, which under current federal law maintains oversight of the District's compliance with the provisions of the SDWA at issue here; and DOH, which is charged with the management of public health issues for the District. The SDWA provides authority for States and the District to assume authority to enforce the statute and adopt regulations more stringent than current federal requirements. In the District, such a grant of primacy would authorize DOH to have the full force of federal law to oversee WASA and the Aqueduct in implementation of the LCR. EPA would retain limited residual oversight authority. Achieving primacy would therefore permit the District to enforce requirements more protective of public health than the LCR.

The District and Wyoming are the only jurisdictions in the country lacking authority to enforce the SDWA, including the LCR. In the case of the District, EPA Region III retains authority to oversee compliance by WASA and the Corps with the LCR. DOH plays a subsidiary role in generally assuring compliance with public health protection, but it lacks authority to compel production of monitoring results or otherwise oversee the program. For example, DOH has authority to issue modest administrative fines and penalties to address potential public nuisances affecting the water supply and, in emergency situations, can seek a Mayoral declaration of emergency, suspending current regulations. The EHA has used this authority to monitor WASA construction projects including lead service line replacements. Emergency authority also has been used to

address bacteria outbreaks in drinking water. However, this authority is insufficient to enforce the LCR other than in a crisis. Moreover, because it lacks authority to enforce the rule, the DOH is not strictly accountable to the Mayor, D.C. Council or the public on lead issues. Nonetheless, the public looks to DOH for leadership on this issue.

For these reasons, we recommend that the District obtain primacy from EPA to enforce the LCR.¹⁹⁴ In fact, DOH has previously sought such authority from EPA as recently as 1994, but its application was rejected.¹⁹⁵ In rejecting its application, EPA cited two reasons. First, EPA argued that limitations in the District of Columbia Self Government and Governmental Reorganization Act of 1973, P.L. 93-198, (“Home Rule Charter”) prevented the District from enforcing drinking water regulations over the Corps’ operation of the D.C. Aqueduct. Second, it cited inherent problems of one District department regulating another. Good arguments exist that neither issue should prevent the District from obtaining primacy; furthermore, our investigation indicates that EPA now would be supportive of primacy for the District.¹⁹⁶

EPA’s first reason for rejecting the District’s 1994 primacy application was that the District does not have adequate authority under the Section 602(b) of Home Rule Charter to enforce its standards against the D.C. Aqueduct and the Corps. Section 602(b) provides:

Nothing in the Act shall be construed as vesting in the District government any greater authority over the National Zoological Park, the National Guard of the District of Columbia, the D.C. Aqueduct, the National Capital Planning Commission, or, except as otherwise specifically provided in this Act, over any federal agency, other than was vested in the Commissioner prior to . . . [January 2, 1975].

That specific limitation notwithstanding, the amendment of the SDWA subsequent to the adoption of the Home Rule Charter arguably eliminates implied limitations on the District’s ability, assuming it sought and obtained primacy, to enforce drinking water standards against the Corps.

As of 1975, the Corps was authorized to control the D.C. Aqueduct and to regulate the manner in which authorities of the District of Columbia may tap the supply of water to inhabitants. It has had the authority to own and operate the D.C. Aqueduct as a water utility since 1859.¹⁹⁷ The Home Rule Charter did not disturb that mandate. The 1996 amendments to the federal SDWA, however, imposed specific limits on the Corps’ operation of the D.C. Aqueduct. Those amendments subject federal entities (and the D.C. Aqueduct specifically) to certain requirements of the SDWA drinking water standards. The amendments identify federal entities subject to the Act as those that:

- (1) own or operate any facility in a well head protection area;
- (2) engage in any activities that result, or which may result in the contamination of drinking water;
- (3) own or operate a public water system; or
- (4) result in or may result in an underground injection endangering drinking water.

If the facility falls under any of those four categories, the facility “shall be subject to and comply with all federal, state, interstate and local requirements, both substantive and procedural”¹⁹⁸ The amendments also expressly waive sovereign immunity for those entities, subjecting them to injunctive action and fines and penalties for non-compliance.¹⁹⁹ The amendments are specific as to the waiver of sovereign immunity for the D.C. Aqueduct, stating that any penalty imposed on the D.C. Aqueduct is not to be passed through to the Aqueduct’s wholesale customers.²⁰⁰

Under these circumstances, the Corps, as owner of the Aqueduct, is subject to the LCR and can be sued for noncompliance. The authority of the Corps to operate with immunity as against enforcement was revised in 1996, after the 1975 effective date of the limitations in the Home Rule Charter. An argument exists, then, that the limitations in the Home Rule Charter no longer restrict the District’s ability to enforce the drinking water standards against the Corps, should the District obtain primacy. That argument notwithstanding, EPA in ruling on a primacy application may require a more explicit grant of authority over the Corps, such that the District may need to obtain an amendment to the Home Rule Charter clarifying its authority with respect to the Corps’ responsibilities under the LCR. As discussed elsewhere, we recommend that WASA eliminate this issue by acquiring the D.C. Aqueduct from the Corps, which would render this issue moot.

EPA previously has questioned the District’s ability to enforce regulations against WASA, arguing that WASA is a District agency and therefore is not subject to suit by another District agency. Later authority shows this not to be the case. In *Dingwall v. District of Columbia Water & Sewer Authority*,²⁰¹ the D.C. Court of Appeals stated that “WASA demonstrably is not the same entity as the District of Columbia, and a suit against WASA is not the same thing as a suit against the District.” In *Dingwall*, the court analyzed the various ways in which WASA was separate from the District, including WASA’s ability to enter into a contract with the District and the fact that WASA was created as an independent, self-funded entity not in the General Fund of the District budget.²⁰² The statute establishing WASA clearly provides that WASA is an independent authority having a separate legal existence that can be sued in its own right.²⁰³ The Mayor’s ability to appoint WASA’s board members,²⁰⁴ and the Mayor and the District Council’s ability to review and make recommendations concerning WASA’s budget,²⁰⁵ simply do not mean that the District government controls WASA’s decisions or that the District can be sued for WASA’s actions or omissions.²⁰⁶ Accordingly, because there is no merit to the previously identified objections to the case for primacy, we believe that the District should proceed to apply for primacy to implement the LCR. Further, its earlier concerns notwithstanding, our interviews with representatives of EPA Headquarters and EPA Region III and their public testimony lead us to believe that EPA is now prepared to work with the District to obtain primacy, and the District has the resources to do so.²⁰⁷

The DOH currently has the staff capable of administering the LCR. The Mayor has recently undertaken a significant reorganization of the DOH and EHA, which has authority to manage a wide array of environmental programs under federal and local statutes. The reorganization includes appointment of new senior DOH leadership. Under its recent reorganization, the EHA includes the Bureau of Environmental Quality,

Water Quality Division and Watershed Protection Division. EHA employs approximately 300 personnel, many of whom are familiar with the issues related to lead in drinking water. The EHA also includes the Lead Poisoning Prevention Division which could coordinate its efforts to reduce consequential lead poisoning from other sources, *e.g.*, lead dust and lead paint with efforts on drinking water.

Even without primacy, a predecessor of the EHA worked with WASA's predecessor to recommend the removal of lead service lines as early as the 1980s — a policy that was not implemented largely for budgetary reasons. EHA developed guidance on lead line removal long before EPA. In addition, the DOH implemented a program to identify lead in drinking fountains in the public schools pursuant to regulations promulgated by EPA in 1988. The DOH successfully conducted an inventory of such water fountains and closed down those that contained high levels of lead. Because of funding reasons, however, the follow-up — removal and replacement of the drinking water fountains containing lead fixtures — has not taken place. Nor has there been adequate public education on the situation in the schools. An EHA with authority and resources to address all lead issues could revitalize these programs.²⁰⁸

Although EPA Region III has devoted some recent efforts to improving its oversight of the District and WASA by executing a Consent Decree requiring WASA to comply with the current LCR, EPA's attention to the District has been inadequate. As discussed above, EPA took years to approve the initial selection of lime as a corrosion control technology for the D.C. Aqueduct and, by the time of its formal approval, both the Corps and WASA were already considering changing technologies. EPA Region III has no office in the District to engage on a regular basis with local authorities, or monitor local compliance firsthand, and has no dedicated office or bureau for District compliance in its Philadelphia headquarters to consolidate in one location the various environmental programs for which the Agency has enforcement oversight. On occasion, EPA relies on local retirees who are available on a part-time basis to attend local meetings. A Consent Decree to bring WASA into compliance with a 13-year old regulation seems an unimpressive performance by a federal agency armed with the force of federal law and substantial technical capabilities.

In response to the recent disclosure of elevated lead levels, EPA has created a Technical Experts Working Group consisting of representatives of EPA, the Corps, WASA and the DOH to review the current collection of data on lead in drinking water, consider new corrosion control technologies, review and evaluate the implementation of such technologies, and discuss an array of related compliance issues. EPA also is considering entering into a Memorandum of Understanding among the executive and legislative branches of the District of Columbia government, WASA, DOH and EPA to coordinate reporting and communications on this public health issue. EPA has increased its communications with the DOH — even though DOH lacks legal authority to enforce the SDWA — but these efforts are still modest at best. Prior to this recent crisis, meetings between representatives of EPA and the DOH took place only infrequently. There have been efforts to coordinate communications and to provide guidance on other water-related health issues like the bacteria outbreak in 1995. The relationship is not one of co-equals, but rather a courtesy offered by EPA in the interest of comity. The more direct and regular EPA communications have been with representatives of WASA

concerning the array of technical issues related to the recent administrative consent order, and with representatives of the Corps concerning the D.C. Aqueduct. As a long term solution, all of these efforts exacerbate the fragmented structure of water management and fail to provide a strong, accountable regulatory authority on which the public can rely.

The costs of assuming primacy under the SDWA appear to be reasonable, particularly given the significant benefits primacy would bring to public health. The DOH developed a work plan and budget in February 1997, the last time it considered seeking primacy to assess the cost of undertaking such efforts in the wake of the 1996 amendments to the SDWA. To obtain primacy and implement regulations on the local level that would pass muster with EPA and to adequately staff the additional requirements of this program, the DOH estimated its costs at approximately \$200,000 per year in 1997 dollars. There also are matching funds available to the District from EPA to support the transition to primacy, which EPA Region III estimates at approximately \$250,000. We have not independently evaluated the adequacy of the assumptions behind this budget, but even assuming the costs of primacy are three or four times this estimate, the costs to the District government for obtaining primacy are not excessive, particularly given the benefits.

One of the greatest benefits to be derived from primacy is that the District could develop local solutions to public health issues and make sure that the public disclosure and notification provisions of the current law are responsive to the community needs. The public could thereby regain confidence that its local public health authorities are directly responsible and accountable for ensuring the quality of drinking water. The Mayor and the D.C. Council could use executive and legislative oversight to monitor the efforts of DOH and to ensure adequate funding and staffing with necessary talent. Significantly, 49 of 50 states exercise such authority to address these issues locally; the District should assume such responsibility as a matter of home rule.

Primacy would provide DOH the tools to compel the agencies to meet their obligations to review and analyze data in a timely manner, the authority to seek injunctive relief and the ability to impose significant fines and penalties for noncompliance. We believe DOH could use these tools effectively to restore public confidence in the drinking water system. The DOH also would have “imminent and substantial endangerment authority” under the SDWA to compel action by WASA and the Corps in circumstances interpreted by the courts generously in favor of the regulator that do not require an actual imminent threat to the public health.²⁰⁹ All of these benefits, however, require a DOH that is prepared to bring to the attention of the Mayor and the D.C. Council public health problems when they arise and to seek and manage their immediate solution. Assuming the District proceeds to obtain primacy and adopts regulations with the authority to enforce the current program, there remains the question of whether the leadership of the DOH possesses sufficient expertise to focus on its environmental obligations and has access to the Mayor and D.C. Council to command their attention when conditions require. We believe additional accountability, dedicated budget, improved oversight by the Mayor and D.C. Council, and attraction and retention of managers and personnel with expertise in the complex field of environmental regulation is required to ensure public confidence and the credibility of the public health authority of the District.

Moreover, the lack of adequate enforcement authority has hampered the District's ability to respond to the recent crisis.

Accordingly, while not indispensable to our primacy recommendation, we would urge consideration of the creation of a Department of Environmental Protection — one comprised of the EHA and equipped with additional personnel and resources if needed to be charged with the performance of these important functions. The new Department would be charged with administering all environmental programs including lead in drinking water. As part of its mission, DOH or the new Department of Environmental Protection must implement an environmental management system that creates a culture of reporting compliance problems to the top of the agency so that public confidence can be maintained in the District's efforts to meet its obligations to provide clean drinking water. To provide technical and other support, the District should develop informal and regular contacts with counterparts in Maryland and Virginia with authority for regulating drinking water.

*... we would urge consideration of the creation of a
Department of Environmental Protection ...*

In crafting this proposal, we have examined how the 50 states administer their drinking water programs. Of the 49 states with primacy, 33 implement the regulations through a Department of Environmental Protection or some equivalent. The remaining 16 use a State Department of Health.²¹⁰ The DOH already is charged with an array of very important programs that principally are medical related, including Medicaid, HIV-AIDS, teen pregnancy, drug abuse and treatment, leaving environmental protection among the menu of programs served.

Environmental law and regulation, on the other hand, is an increasingly specialized field calling for technical expertise in engineering, chemistry and other related disciplines. Furthermore, programs administered under environmental laws are complex and demanding. The creation of a Department of Environmental Protection would shine a bright light on these important public health objectives and ensure that a leader of the Department would be a member of the Mayor's cabinet with expertise in environmental sciences and could provide the necessary accountability to the Mayor, D.C. Council and the public, currently lacking in the divided management of the District's drinking water regulation. Given the structure already in place, we believe that the costs of creating a Department of Environmental Protection would not be substantial and would be offset by the significant benefits of managing the many public health issues imposed by federal and local environmental regulations in one central authority, with a leader who is publicly accountable and has access to the Mayor and D.C. Council. The new agency also would focus on the issue of lead in the drinking water once primacy is achieved.

B. EPA REGULATIONS SETTING STANDARDS FOR OBTAINING PRIMARY ENFORCEMENT AUTHORITY

Currently, EPA retains oversight authority for compliance with the LCR in the District. To obtain primary enforcement authority (primacy) for public water system compliance with SDWA requirements, the District would have to adopt code provisions and regulations that meet or exceed requirements set out in 40 C.F.R. pts. 141 and 142. Because other environmental enforcement authority resides in DOH, enabling code authority could designate DOH as the agency responsible for assuring WASA compliance with SDWA requirements, or authority could reside in a new Department of Environmental Protection. The obligations for adoption of regulations — technical, administrative and enforcement — are significant but not overwhelming.

To obtain primacy, the District would have to submit to EPA a demonstration that it has:

- ❖ adopted drinking water regulations which are no less stringent than the national primary drinking water regulations in effect under 40 C.F.R. pt. 141;
- ❖ adopted and implemented enforcement procedures including a systematic program for conducting sanitary surveys of public water systems, a program for certifying laboratories testing for regulated drinking water contaminants and designation of a responsible certification official, a procedure for assuring that design and construction of new or modified systems will be able to comply, and an enforcement program for compelling compliance (authority to enjoin a threatened or continuing violation, to enter and inspect, to compel suppliers to maintain records and make reports, to require provision of public notice and consumer confidence reports, and to assess civil or criminal penalties);
- ❖ established ongoing recordkeeping and reporting of its regulatory and enforcement activities;
- ❖ established procedures no less stringent than those in the SDWA for issuing variances and exemptions;
- ❖ adopted an adequate plan for providing safe drinking water under emergency conditions; and
- ❖ adopted administrative penalties of at least \$1,000 per day per violation (for water systems serving more than 10,000 persons).²¹¹

Once primacy is authorized, the District would have to continue to revise its program to implement new or revised federal regulations. New regulatory programs generally include specific requirements for the primacy application revision.²¹² A request for approval of program revisions has to be complete and final no later than two years after EPA promulgates new or revised regulations.²¹³

The authorized enforcement authority has to maintain records of its tests and determinations.²¹⁴ In addition to certain special reports, it also must submit quarterly reports to EPA regarding new violations, enforcement actions, and variances or exemptions granted, and annual reports summarizing changes or corrections to the water system inventory and the status of all variances and exemptions.²¹⁵ As noted, we

believe EPA would be supportive of the District obtaining primacy and would work with DOH to establish that new authority.

C. SPECIFIC PRIMACY RECOMMENDATIONS

- ❖ The District should seek primacy for enforcement of the LCR under the SDWA. The criteria for primacy are spelled out in 40 C.F.R. Parts 141 and 142.
- ❖ Achieving primacy is only a partial solution to improving implementation of the LCR. This grant of legal authority must be accompanied by adequate staffing, budget, and enforcement. As an initial matter, the recent reorganization of the EHA provides a structure with sufficient personnel, senior management and experience to assume responsibility for enforcement of the LCR. At the same time, we urge consideration of elevating the EHA and other supporting agencies to a new Department of Environmental Protection.
- ❖ Given the complexity and breadth of environmental regulation, the District requires leadership of seasoned public health professionals with expertise in environmental compliance who can be held accountable to the public. Housing these responsibilities in the DOH may no longer make sense. That agency has responsibilities for Medicaid regulations, HIV/AIDS, healthcare safety net administration and substance abuse services. Most states entrust responsibility for environmental compliance to a state Department of Environmental Protection. In addition, we believe that compliance with public health duties of environmental regulations requires a leader with expertise in the field who reports directly to the Mayor, has a budget dedicated to public health issues and can seek action when public health emergencies arise. That leader needs to be supported by adequate staff with technical expertise and a serious corps of public health professionals to provide the requisite oversight, support, and enforcement authority to ensure that the District meets its environmental obligations. The costs of such a transition — based on staffing a new agency with a corps of 300 employees from the EHA — should not be excessive and are outweighed by the benefits of greater accountability and ability to respond to crises effectively.
- ❖ Upon assumption of primacy, the District would be equipped with emergency authority similar to that under federal environmental statutes to compel compliance, obtain timely reports and respond to crises with enforcement provisions commensurate with that responsibility. The lack of such authority on a local level has hampered the District's ability to respond to the recent lead-in-drinking water situation and to instill confidence in the public.
- ❖ To the extent required, we recommend that the Mayor and D.C. Council provide sufficient additional funds to attract qualified staff at all levels in terms of expertise and management skills. The Mayor should review the adequacy of enforcement personnel at the EHA and coordinate these efforts with the D.C. Attorney General.
- ❖ Assuming the District achieved primacy, among its responsibilities would be consulting with WASA on implementation of the LCR, including lead service line

removal and maintaining and disseminating to the public data on compliance with the LCR. The District should also retain staff equipped in public communications who can conduct as necessary community meetings and review WASA's written materials for the public on issues affecting the District of Columbia. In addition, the District should consult regularly with representatives of Maryland and Virginia with responsibility for drinking water compliance. A leadership role for the District government in public communications can provide support to efforts undertaken by WASA with respect to water quality issues.

II. Changes to the Lead and Copper Rule

A. WITH A GRANT OF PRIMACY, THE DISTRICT SHOULD REVISE EPA'S CURRENT LEAD AND COPPER RULE TO PROTECT DISTRICT RESIDENTS

Upon qualification for primacy, the SDWA provides that a state adopt regulations that are no less stringent than the national primary drinking water regulations.²¹⁶ This language is consistent with provisions of other federal environmental statutes, which also authorize delegation of authority to states. The District is considered a State for these purposes.²¹⁷ If the District assumed primacy, it could adopt regulations that are in fact more stringent than the current federal requirements. We discuss below some substantive revisions to the LCR that we think should be included in a District regulation and which we hope could become the model for a federal effort to revise the current LCR. We make these recommendations because options under current law — (1) maintaining the current failed system or (2) undertaking, as WASA has announced, a program of partial lead line replacement at great expense — are not protective of drinking water quality.

In response to the deficiencies with the current regulation described above, we recommend a significantly revised rule. We do so because the current ineffectual sampling system does not protect the public health and because the cost of supporting the current system of corrosion control is untenable given questionable results. Furthermore, WASA has announced a program of partial lead line replacement at a cost of \$300 million. This program will be funded out of WASA's ten-year, \$1.6 billion Capital Improvement Program budget, and ultimately will be reflected in higher rates beginning in October 2005. This increase would add slightly more than \$22 annually to the average residential water bill. WASA also is directing \$6 million in excess revenue from the last fiscal year into a rate stabilization fund that will be used to minimize rate increases in future years.²¹⁸ These funds are not part of the D.C. General Fund or other facets of the District budget. Homeowners, should they choose to do so, would bear the approximately \$2500 cost per residence for replacement of that portion of the lead service line on private property — a total additional cost of \$50-60 million. Yet, as we

We propose a more comprehensive residential sampling regime, with expanded public notification and incentives to promote participation.

have discussed above, partial lead line replacement jeopardizes public health by increasing the likelihood of additional lead leaching into the drinking water. For this reason, we believe WASA's proposal, although well intentioned, offers few if any benefits at great cost in dollars and to the public health. Recently, WASA has announced a significant acceleration of its partial lead line replacement schedule, which in part reflects disappointing results of new corrosion control efforts.²¹⁹

We propose a more comprehensive residential sampling regime, with expanded public notification and incentives to promote participation. Unlike under current law, however, sampling would not be linked to determining the necessity of lead service line removal.

Individuals would receive from WASA results of samples taken at their residence with recommended remedial options. For residents with lead levels above 5 ppb, WASA would bear the costs of remedial options; for residents with results below 5 ppb, WASA would provide an array of options that residents could adopt at their own expense. Notices would contain information regarding replacement of leaded-brass water service parts in the home. In addition to promoting voluntary sampling, WASA should undertake periodic sampling of homes with lead lines and young children based on the inventory of lead lines and school or birth records to ensure that replacement reaches all priority homes.

A more extensive sampling program, in addition to providing a more complete picture of drinking water quality, would provide residents with direct information on the lead content of water in their homes and how to address elevated lead levels. A universal sampling program with a goal of consumer education would also remove the incentives in the current regime that promote evasion and manipulation. We also would suggest placing the burden on WASA to institute and fund the comprehensive testing, but at the same time would suggest incentives (financial, regulatory or otherwise) to encourage long term participation and compliance by homeowners.

In addition, we recommend implementation of a full lead service line and lead water service parts replacement program over a five-year period. A system of shared responsibility between WASA and the homeowner creates incentives on both sides to reduce significantly lead exposure. Although we prefer that WASA bear the full costs of lead line replacement, including that portion on private property, at a minimum WASA should pay the replacement costs for low-income homeowners. For the remainder, the obligation to remove the lead line should be mandatory; WASA should bill the homeowner directly. The cost of WASA absorbing the additional \$50-60 million of expenses involved in removing the portion of lead line on private property would come from WASA's Capital Improvement Program, representing 3 to 4 percent of that budget. The charges could be financed through bonds, reserves, or by reallocating capital priorities. By offering to fund full lead line removal, WASA will ensure a higher rate of compliance. Under WASA's first phase of partial lead line removal, only 14 homeowners have volunteered to incur the expense of removal of the portion of the lead line on private property.²²⁰ Priority for removal would be given to residents with lead levels meeting or exceeding 10 ppb. Corrosion control would be maintained to address residual lead exposure within the residence. Removal of this significant source of lead in drinking water would have important public health benefits. Indeed in 1991, EPA estimated the potential benefits of lowering lead levels to 5 ppb at over \$4 billion in 1991 dollars.

WASA does not know the number of lead lines in compliance with the current Action Level. Moreover, the current system of lead service line replacement as a fail safe or last resort has proven inadequate. Full lead service line removal removes the opportunity in current law to manipulate data to avoid undertaking this obligation. When coupled with homeowner's efforts to mitigate lead exposure, our proposal would realize the removal of a major source of lead exposure. Removal of a source of lead representing on average 20 percent and as much as 85 percent of lead exposure to children and other vulnerable groups is a significant achievement.

Schools, daycare centers and other institutions serving vulnerable populations, such as nursing homes should receive additional attention to ensure that drinking water is free of lead or only has trace amounts. Grants or other low interest loans should be available to low-income residents who wish to purchase filters or replace lead service parts in their homes, but cannot afford the expense.

Set forth below is a more detailed description of our proposed revised regulation.

B. SPECIFIC RECOMMENDED REVISIONS TO THE LEAD AND COPPER RULE

I. OBJECTIVES

- ❖ Implement and complete a full lead service line replacement program over a five-year period. The goal is to replace all lead service lines, including the line portion under private property.
- ❖ Institute system-wide sampling pursuant to which any customer may have his/her water sampled at the utility's expense, and will be provided results stating lead levels in the water, associated health concerns and recommendations on how to mitigate or avoid lead in their water. The purpose is to notify as many people in the system as possible of the condition of water at their home, and not serve as the barrier to further action by the utility.
- ❖ Continue the use of corrosion inhibitors throughout the water distribution system in order to provide a first line of defense from lead leaching during service line replacement and due to leaching from lead water service parts inside residences.
- ❖ WASA should discontinue the use of all lead-containing water service parts such as lead-containing water meters, and provide homeowners with the information and tools on replacing lead-containing water service parts in the home, including giving them information on non-lead products available for purchase.

2. SAMPLING

- ❖ Invite all residences in the distribution system to have their water sampled at WASA's expense. Require, however, statistically valid sampling of households or buildings randomly selected from a pool constructed between the years 1970 and 1986²²¹ to ensure the integrity of the sampling regime. Invalidation of samples from the testing would be restricted solely to quality control issues certified by an independent lab. An aggressive communications effort, renewed every six months, and incentives to homeowners in the form of credits on their utility bills (such as a one-time \$50 credit) could increase voluntary participation in the testing.
- ❖ All residences participating in the testing would receive a letter informing them of the lead levels in their drinking water, and if the results were 5 ppb or more, of the potentially harmful levels of lead. If test results were below 5 ppb but above detection amounts, the letter would inform the residents of the risk of long-term exposure to such levels of lead in the drinking water. Establish a trigger of 10 ppb as a priority for lead service line removal and corrosion treatment.

- ❖ Even after WASA's promotion of sampling on a voluntary basis, WASA should conduct periodic sampling in homes with children known or likely to have lead exposure based on the inventory of lead lines, school enrollment or birth records.
- ❖ During sampling, make sure all residences, and especially residences with known lead service lines, are sampled in the following manner: an initial draw from the tap, followed by another draw taken at one minute. The initial draw provides information on water that has been sitting in the pipes and water service parts of the home. The one-minute draw gives an indication of the quality of water in the service line leading into the home. Should WASA deem it necessary to conduct further sampling to determine lead levels more precisely (such as if the one minute draw had higher levels of lead or if results were otherwise conflicting), 6-8 subsequent draws at 30 second intervals should be taken. This protocol ensures that the samples will provide a comprehensive picture of the condition of the water, taking into account the plumbing system inside the home as well as the service line leading into the home.
- ❖ WASA would be responsible for funding all testing, regardless of whether the sampling occurs before or after a lead service line to the residence is replaced. An incentive to conduct the extensive sampling work would be to require less frequent sampling in subsequent periods, assuming a significant percentage of participating homes and aggressive recruitment of volunteers. This will lead to lower costs for WASA in the long term. WASA should obtain and archive information for purposes of making decisions about the effectiveness of compliance. Compiling such a database will help authorities identify the most at-risk homes where action should be taken immediately. This information will also be invaluable should future problems arise.

3. NOTIFICATION REQUIREMENTS

- ❖ Residents who opt to participate in the testing and those subject to WASA periodic testing will receive a notice containing their test results, an explanation of those results, and recommendations for further action.
- ❖ The notice will contain comprehensive, comprehensible, standardized language to residents about the test results and the recommendations. The language should reflect the actual lead levels detected in the drinking water (*i.e.*, a graduated notice system), but the information on health concerns and recommendations corresponding to the household's individual test result should be highlighted.
- ❖ The explanation of test results and the recommendations in the graduated notice system would provide the following information:
 - For samples taken after one minute of purging taps that have readings above 10 ppb (or if subsequent draws test higher), the regulation creates a presumption that the residence has a lead service line and should receive priority for full lead service line replacement. The notice will inform residents of the high lead level in their water and provide a warning that there is a significant and immediate risk of adverse health

effects from drinking water with the elevated lead level. The notice will recommend that the household use a filter provided free of charge by the water utility. Maintenance of the filter is the resident's responsibility, but clear instructions on maintenance and reminders would be provided.

- For samples taken after one minute of purging that have readings below 10 ppb but at or above 5 ppb (or if subsequent draws remain at 5 ppb or above), there may or may not be a lead line servicing the residence. Nonetheless, a significant health risk remains. The notice should recommend that actions be taken to reduce lead, such as purging the tap for at least one minute immediately before each consumption of water, or using a filter provided by WASA free of charge. Maintenance of the filter is the resident's responsibility, but clear instructions on maintenance and reminders would be provided.
 - For samples taken after one minute of purging that have readings below 5 ppb but above zero (or if subsequent draws taken shortly after the one-minute draw are lower than the results from the one-minute draw), there is likely not a lead line servicing the house. The notice should inform the residence that long-term exposure to lower levels of lead can still be harmful, and recommend actions that should be taken to reduce lead, such as purging the tap for at least one minute immediately before each consumption of water, or using a filter. The cost of filters for these residences would be borne by the resident, but WASA would provide names of approved manufacturers or could supply such a filter for purchase.
- ❖ Notices should also contain information regarding leaded brass water service parts in the home (faucets, etc.), as well as a recommendation to residents that they replace these parts (non utility-owned parts) at their expense. A list of approved lead-free products and their suppliers should be provided with this notice.
 - ❖ During lead service line replacement periods, utilities should periodically distribute notices to homeowners informing them of the ongoing projects, the risk of exposure to lead through drinking water, and the recommendation that households that have not already done so should get their water sampled for lead (with utilities paying for initial samples).

4. LEAD SERVICE LINE AND LEAD WATER SERVICE PART REPLACEMENT

- ❖ Abandon the rule that utilities with lead sample results at or above the federal Action Level for the 90th percentile of test subjects must replace 7 percent of their lead service lines each year. Rather, all lead service lines should be fully replaced as soon as practicable, but in any event, within five years. (The current WASA plan is to replace partially all lead service lines in the District of Columbia by 2010.)
- ❖ Priority for lead service line replacement, however, should be given to those homes that have confirmed lead levels above 10 ppb after sampling. These homes

presumably have lead service lines that are leaching into the water. As such, these lead service lines pose the greatest problems and should be addressed first.

- ❖ Ensure that the replacement of lead service lines is coordinated with the District Department of Transportation in order to minimize disruption to local streets and residents, but do not establish lead line replacement priorities based on transportation projects. Rather, the transportation projects should be scheduled to coincide with lead line replacement projects.
- ❖ Because we recommend full lead service line removal, WASA would be required to remove the portion of the line on the homeowner's property. If necessary, the District should grant WASA the legal authority (either through emergency or narrowly tailored powers) and the duty to enter private property to replace the full lead service line. Although we prefer that WASA bear the full expense of lead line replacement, at a minimum the costs of low-income homeowners should be the utility's responsibility. The remainder can be directly billed to the homeowner to ensure compliance. Homeowners should receive reasonable notice of any utility access to their property. In addition, we recommend prohibiting partial lead line replacement as this can exacerbate existing problems with leaching due to physical disturbance of the existing system, and potential creation of galvanic lead corrosion conditions (due to two different metals).
- ❖ Adopt a new definition of "lead free" in the proposed District regulations, to prohibit parts advertised as lead free from containing more than 0.25 percent lead ("no lead").
- ❖ All lead water service parts (*e.g.*, leaded brass meters, curb valves, elbows, tail pieces, and other, lead-based plumbing components) owned by WASA should be replaced at WASA's expense as soon as practicable. Replacement can be phased in on a multi-year cycle to reduce the cost burden, but under no circumstances should these lead-containing parts continue to be installed in the water service to any residence. Replacement of lead-containing parts within the home would be the homeowner's responsibility, but WASA should provide information on available replacement parts.
- ❖ Coupled with the prohibition on installing new leaded brass water system components, provide incentives to WASA to replace leaded brass water system components, including meters. For example, these incentives could include less frequent testing and monitoring.
- ❖ A ban on the use of leaded brass water parts installed within homes (and owned by the homeowner) would be advisable. Although the cost of such a ban may be prohibitive, an immediate phase out of new leaded brass parts would be feasible. Homeowners would be given the option of having leaded brass parts removed at their expense, as well as information on products with "no-lead" brass that are available for purchase. WASA would provide information on lead free products in communications with customers.

5. CORROSION INHIBITORS

- ❖ The use of corrosion inhibitors and corrosion optimization should continue as a primary front-line defense against lead, both during and after replacement of lead

service lines. The coating effect of corrosion inhibitors can protect against lead leaching from pipes inside the house, fixtures, lead brass meters and solder joints (a problem that continues even after lead service lines are fully replaced). Therefore, it is important to continue using some sort of corrosion inhibitor at all times.

6. SPECIAL CONSIDERATIONS

- ❖ Schools, hospitals, daycare centers and other institutions catering to vulnerable populations, such as nursing homes, should receive additional attention to ensure that drinking water is free of lead or only has lead in trace amounts.
- ❖ To attain this goal, every source of drinking water in these facilities (*i.e.*, fountains and faucets) should be tested for lead. If elevated levels are found, two options would be available:
 - a) Replace all lead service lines, lead plumbing fixtures and lead water service parts in or leading in to the facility.
 - b) Outfit the water sources with a means to eliminate lead (*e.g.*, filters utilizing reverse osmosis technology) from the water. We prefer this choice because filters can be installed for a fraction of the cost of replacing all plumbing components.
- ❖ If the choice is made to install filters at the water sources, it is imperative that periodic sampling be continued at WASA's expense to ensure that the filter program is working correctly. Furthermore, notice should be provided to all users reminding them to change the filters at least once a year.
- ❖ Private schools and private daycare centers with first draw levels above 10 ppb should be required to include plans for plumbing replacement or water filters in their applications for licenses or as part of the licensing process. To ensure compliance, reviews, testing and inspections should be completed at the time of an initial application as well as when licenses are to be renewed.

7. OTHER SUGGESTED RECOMMENDATIONS

- ❖ Any time that WASA proposes a water treatment change (*i.e.*, in water chemistry, distribution, corrosion optimization or corrosion inhibitors), it should be required to institute full-scale monitoring of 100 high risk residences for at least two monitoring periods after the change as a requirement to receive approval for the proposed treatment change.
- ❖ Grants and/or low-interest loans should be available to low-income residents who wish to purchase filters or replace lead service parts in their homes.

TABLE 1

SUMMARY OF PROPOSED REVISIONS TO THE LCR

EXISTING REQUIREMENT UNDER THE LCR	REVISED LCR
Sampling Requirements	
<p>Large water distribution systems serving more than 100,000 persons are required to sample 100 sites during each monitoring period.²²² The results of that sampling may trigger lead line replacement and public disclosure obligations if more than 10 percent of samples exceed the 15 ppb lead Action Level.</p>	<p>All residents in the water distribution system are entitled to have their water sampled at the utility's expense, but the utility is required to sample a statistically valid number of at-risk sites each monitoring period to ensure the integrity of the sampling protocol. This program involves a communications effort to promote participation.</p>
<p>Samples may be invalidated upon written petition to the regulatory authority if one of the following conditions is met: (1) the lab establishes that improper sample analysis caused erroneous results, (2) the regulating body determines that the sample was taken from a site that did not meet the site selection criteria of the LCR, (3) the sample container was damaged in transit, or (4) there is substantial reason to believe that the sample was subject to tampering.²²³</p>	<p>Samples may be invalidated solely based on quality control issues, and these issues would have to be certified by an independent lab.</p>
Lead Service Line Replacement Requirements	
<p>Systems exceeding the lead Action Level must replace 7 percent of lead service lines each year they are not in compliance with the lead Action Level.²²⁴ If subsequent sampling results in lead levels below 15 ppb, service line removal can halt.</p>	<p>Require full lead line replacement no later than five years. WASA would be given the authority and the duty, upon notice to the homeowner, to replace the section of the service line on private property. At a minimum, the costs of lead line replacement for low-income homeowners would be the utility's responsibility; other homeowners would be billed directly to ensure compliance.</p>

EXISTING REQUIREMENT UNDER THE LCR	REVISED LCR
Notification Requirements	
<p>When more than 10 percent of homes sampled exceed the lead Action Level, the utility is required to provide notification to residences within 60 days of the exceedance that the drinking water has elevated levels of lead.²²⁵</p>	<p>Provide notice with sample results to each home that is tested, regardless of test results. Include specific recommendations and send out a notice to all customers detailing the health risks and recommendations associated with lead levels at or below 5 ppb, between 5 and 10 ppb and at or above 10 ppb. For homes with test results exceeding 10 ppb, include notification that home receives priority for lead service line replacement. See Table 2.</p>
Corrosion Control Requirements	
<p>Corrosion control is the preferred method for lead mitigation. Only after sampling confirms that the Action Level has been exceeded does the LCR require lead line removal. Moreover, removal can be halted based on subsequent sampling.²²⁶</p>	<p>Require corrosion control as a tool to mitigate further the leaching of lead during replacement of lead service lines and lead-containing water service parts within homes.</p>
<p>After the regulating authority designates an optimal corrosion control treatment, the utility has two years to install the treatment, and an additional year to conduct follow-up monitoring.²²⁷</p>	<p>N/A</p>
Leaded Brass Water Service Parts	
<p>“Lead-free” water meters and other water service parts are actually allowed to contain up to 8 percent of lead-containing parts.²²⁸</p>	<p>Replace all lead water service parts (<i>e.g.</i> leaded brass meters, curb valves, elbows, tail pieces, and other, lead-based plumbing components) owned by the utility at utility’s expense as soon as practicable. Prohibit continued installation of these lead-containing parts in the water service to any residence. Provide homeowners with information on available replacement parts through utility correspondence. Also give homeowners the option of having leaded brass parts removed at their expense, and provide them with information on products with “no-lead” brass that are available for purchase.</p>

TABLE 2

SUMMARY OF PROPOSED NOTIFICATION REQUIREMENTS

Lead Level From Sample	Contents of Notice
10 ppb and above	<ul style="list-style-type: none"> • Inform resident of the high lead level in the water. • Notify resident that there is a significant and immediate risk of adverse health effects from drinking water with the elevated lead level. • Recommend that the household use a filter provided free of charge by the water utility. • Provide clear instructions on filter maintenance and send periodic reminders.
5 ppb to below 10 ppb	<ul style="list-style-type: none"> • Notify residents of lead levels and that there is a significant health risk • Recommend that actions be taken to reduce lead, such as purging the tap for at least one minute immediately before consuming water, or using a filter provided by the water utility free of charge. • Provide clear instructions on filter maintenance and send periodic reminders.
Trace to below 5 ppb	<ul style="list-style-type: none"> • Inform resident that long-term exposure to lower levels of lead can still be harmful. • Recommend actions that should be taken to reduce lead, such as purging the tap for at least one minute immediately before consuming water, or using a filter (the cost of filters for these residences would be borne by the resident). • Provide names of approved manufacturers of water filters or supply a filter for purchase.

Additional recommendations on public communications generally are discussed on pp. 71-73.

III. Control of the D.C. Aqueduct and WASA's Governance

We recommend that WASA acquire part or all of the operations of the D.C. Aqueduct from the Corps. The federal government has largely divested itself of aqueducts, preferring private or non-federal public management of these enterprises. Congress encouraged this process in 1996 and, as a result, the D.C. Aqueduct remains the only aqueduct still under Corps control. In fact, although authorized by law, WASA declined an opportunity to acquire the D.C. Aqueduct in 1997, citing the burden of assuming additional operations on what was then a fledgling agency. At the same time, although the D.C. Aqueduct remains under the control of the Corps, WASA and the Virginia wholesale customers of the D.C. Aqueduct pay the full operating and capital costs of the Corps. We believe the opportunity to acquire the Aqueduct should be reconsidered.

The Corps is a public works agency, operating relatively free from local accountability. Public health issues are not given as much weight in its decision-making process as befits an agency managing the drinking water supply for a major metropolitan region. Indeed, the initial decision to select a corrosion control technology was protracted, conducted by low-level managers, and reflected an inclination for selection of the least costly chemical treatment rather than careful consideration of potential health effects. In addition, the Corps is not allowed to borrow money and, in financing improvements, WASA must follow the federal procurement pay-as-you-go obligations, limiting its flexibility in scheduling capital projects.

The costs of the Aqueduct are not funded through the usual federal budgetary mechanisms. Currently, WASA pays 75 percent of the operating and capital costs of the D.C. Aqueduct. The balance of these expenses is paid by the Virginia wholesale customers, Arlington and Falls Church. Although WASA now has opportunities for consultation with the Corps, we believe that creating a water authority that controls both the distribution and the supply of water will provide at the local level an authority whose conduct will be more responsive to the District residents and its government. At the same time, we believe the existing protections of District law shielding WASA's budget from the General Fund and prohibiting transfer of WASA funds to District general operations should be maintained. In addition, certain changes to WASA's governance, as well as formation of a broader regional authority, should be considered.

A. WASA SHOULD ACQUIRE THE D.C. AQUEDUCT

The SDWA Amendments of 1996 encouraged WASA and the other wholesale Virginia customers (the City of Falls Church, VA, and Arlington County, VA) either to establish a non-Federal public or private entity or enter into an agreement with an existing entity to receive title to the D.C. Aqueduct and to operate and maintain it in a way that represents the interests of its customers.²²⁹ Congress specifically consented to the Aqueduct's wholesale customers entering into any interstate agreement or compact required to carry out the transfer of ownership and operation.²³⁰ Contemporaneous news reports indicate that the Corps ruled out transferring the Aqueduct to any governmental authorities in the District because of its then lack of experience in operating a water treatment facility and in Fairfax County because the transfer would not realize significant cost savings (and was opposed by Arlington County).²³¹

The Aqueduct's wholesale customers formed a steering committee to evaluate the formation of an interstate compact to own and operate the Aqueduct. A team assigned to study formation of such a new public entity in February 1997 presented to its supervising steering committee a draft interstate compact for a D.C. Aqueduct Authority to accept ownership of the Aqueduct and to assume operating responsibility.²³² Such operations, apparently, could have been managed by contracting with an outside entity, whether private or governmental.²³³ One of the important reasons, however, for forming an interstate compact instead of transferring ownership to a private entity was to retain the ability to finance capital improvements through the issuance of tax-exempt bonds.²³⁴ The compact participants were the District of Columbia, Arlington County, and the City of Falls Church, and the compact would have been subject to approval by the D.C. Council and Mayor and the legislature of the Commonwealth of Virginia. The draft document noted that exemption from federal taxation (in addition to exemption from District and Virginia taxes) could be available upon congressional approval.²³⁵ The proposed Authority would have had the authority to issue bonds and sell water to parties other than the compact participants but only after the needs of the participants were satisfied.²³⁶ WASA would have remained a wholesale customer of the Aqueduct.²³⁷ The parties, however, never executed the compact, and thus, the ratification process never was triggered.

Issues not resolved before the Aqueduct's wholesale customers decided not to pursue transfer of ownership²³⁸ included some governance issues, such as the balance of representation on the Authority by the wholesale customers and the voting protocols for significant issues such as hiring and firing the general manager, approving the budget, and authorizing excess water sales. Also undecided was the allocation of operating costs among the customers (such as by pro rata share based on the amount of water purchased from the Authority), as well as methods to avoid the Authority's assumption of the pre-existing tort or contract liability and the issue of sovereign immunity.

The Corps, meanwhile, operates with little opportunity for oversight by the District government, the Virginia wholesale customers, and is largely remote from public scrutiny. WASA, Arlington County and the City of Falls Church exercise some supervisory authority over the Corps under a joint MOU. The MOU process is, however, unwieldy and ultimately only advisory on the part of its participants; decision-making is primarily driven by cost, not public health considerations. Acquisition of the D.C. Aqueduct by WASA would vest accountability for compliance in one organization (WASA), subject to D.C. Council oversight and subject to Mayoral appointees to the WASA Board. This would offer an appropriate level of public scrutiny and accountability given the crucial health concerns at stake. In addition, it is worth noting that WASA and the Virginia customers already pay the full amount of the D.C. Aqueduct's operating and capital costs; formal acquisition would allow WASA greater flexibility in financing and planning major capital projects.

On the assumption the District achieves primacy, WASA would report to DOH or a new Department of Environmental Protection. A simplified management structure with local control is preferable to the current system. Addition of the D.C. Aqueduct (and its removal from Federal management) would require accommodations for the existing service agreements, additional affected parties, a switch from federal procurement

procedures, Maryland regulatory control over the Aqueduct residuals discharge, revision of financial governance procedures, and provision of water utility service to an expanded service area. Addition of the D.C. Aqueduct would not require direct bond debt transfer because the wholesale customers currently fund capital needs via pay-as-you-go funding; however, it would require an assessment of the potential capital program needs and bond/funding requirements. Significantly, decision-making on important public health issues would return to local authorities.

B. WASA'S GOVERNANCE

WASA was established to bring financial solvency and independent management to the delivery of drinking water to its customers. It has performed that function well. At the same time, however, the current crisis of elevated lead levels in the District's drinking water demonstrates that WASA has not paid sufficient attention to its mission as a public health entity. Although WASA has taken some preliminary steps to address these issues, we believe further changes to WASA's governance are necessary to create a management structure and culture that focuses more successfully on its environmental obligations.

To that end, the WASA Board should include representatives with expertise in environmental law or public health regulation. In addition, the Board should establish a Board-level committee on environmental compliance to review WASA's conduct in performing its obligations under environmental laws. WASA has retained a qualified environmental consulting firm in recent months, which is an important development. A senior level manager also should be designated as Manager of Environmental Compliance reporting to the General Manager and the Board. This manager would develop and implement an environmental management system, including an annual environmental audit, and the preparation of a capital and operating budget for environmental matters. The goal of the environmental management system is to ensure that problems are reported to the top of the organization, and that planning for future compliance and responding to emergency situations becomes part of the ongoing discussion between management and the Board.

We also recommend that the D.C. Council continue its oversight of WASA's environmental compliance, and that WASA cooperate with the DOH or a new Department of Environmental Protection to review sampling and other data and to maintain regular and effective public communications on drinking water issues. The District, assuming it achieves primacy, should be an active partner with WASA in reviewing treatment technologies, planning lead service line removals, public communications, and addressing all facets of the regulations. We are pleased that WASA has retained experienced communications consultants to revamp its current program.

Finally, we do not support creation of a Citizen Water Utility Board to oversee WASA even though legislation on that topic has been introduced in the D.C. Council. We believe that, with an enhanced compliance system and greater accountability to the District health authorities, the D.C. Council, and Mayor, additional oversight is unwarranted. Reform should reduce the layers of oversight and make that oversight more effective and transparent to the public.

C. WASA'S FUTURE ROLE

The District and/or WASA have several times examined the feasibility of forming a broader-based regional authority to own, operate and manage the facilities currently involved in providing drinking water to the District and in treating its waste water discharges, as well as the facilities that are interconnected with those District operations. In each case those assessments and evaluations have made progress in outlining the issues that such a project would have to address. They have, however, stopped short of recommending or implementing plans to create such regional authorities. We believe it may be timely for WASA to review its examination of evolving into a regional water authority. WASA has met successfully its original mandate of restoring financial stability to its operations and capital programs. Water issues, including lead management, are not easily subject to local boundaries, and the allocation of water itself in a growing metropolitan area calls for regional solutions. A regional authority could spread the burden of compliance with public health initiatives more equitably. Because the procedure called for in transferring the Aqueduct, *i.e.*, an interstate compact, may also apply to this situation, there are potential efficiencies in examining at this time the costs and benefits of an expanded regional water authority, including any public health benefits.

In response to a District mandate, the WASA Board in Fall 1999 formed a committee to investigate the feasibility of WASA's privatization and regionalization options.²³⁹ During the course of its investigation, the Privatization and Regionalization Committee ("the Committee") retained the Metropolitan Washington Council of Governments ("COG") to conduct technical studies, met nine times, and held a half-day workshop in February 2000.²⁴⁰ The aim of the evaluation was to determine whether there were sufficient benefits from changing the WASA governance structure to that of a regional authority to justify the labor involved. COG concluded only that such an authority was legally and technically feasible, but did not make a recommendation. The Committee, however, came to the following conclusions:²⁴¹

- ❖ Creation of a regional authority would be time and resource intensive, requiring approximately one to three years to complete and, during that time, would absorb a significant amount of the time of WASA's General Manager and senior staff.
- ❖ Any reorganization schemes that create a regional authority for some services and operations while allocating other services and operations to the District would likely create a significant burden for District government, and should be avoided. The purpose behind creating WASA — efficient management of the full suite of water distribution and wastewater collection and treatment services for the District residents — should be honored.
- ❖ An interstate authority would meet the important goal of preserving the financial and management independent of WASA from the District government.
- ❖ WASA was relatively young (four years at the time of the study) and the Committee determined that it was appropriate to allow WASA several more years before considering, again, adoption of a regional interstate authority to replace WASA. Accordingly, the Committee recommended retaining the WASA

governance structure, including its financial and management independence, and revisiting the issue of forming a regional authority by 2005.

The 2000 Regionalization Study concluded that formation of a regional authority was feasible and would most likely be conducted through an interstate compact. It emphasized, however, that all necessary parties had to be involved in the negotiation process, including representatives of the D.C. Council, the legislatures of Maryland and Virginia, and the U.S. Congress.²⁴² COG considered several critical elements of negotiation with regard to interstate compacts: (1) determining the fundamental role that the new regional authority would play; (2) making sure that the regional authority had the legal and financial ability to complete its responsibilities; (3) describing the Board and the roles of the parties affected by the regional authority; (4) ensuring that the compact did not override existing agreements such as the Blue Plains Intermunicipal Agreement of 1985; (5) keeping the affected parties involved in the process; (6) creating joint ownership and operation of facilities; and (7) remembering that the process would likely take at least one year and as many as two to three years to complete.²⁴³

COG next evaluated several base case models for WASA's possible formation. The eight models were:

- ❖ Model 1, Existing WASA: WASA remains a District authority formed under District law and has control over the Blue Plains facility, the Potomac Interceptor ("PI"), the District's water distribution system, and the District's wastewater collection system.
- ❖ Model 2, Basic Regional Authority: WASA retains the same functions and facilities as the existing authority but is governed by an interstate compact.
- ❖ Model 3A, Blue Plains-Only Regional Authority: WASA retains control over Blue Plains and the PI and is governed by an interstate compact. Management of the District's water distribution and wastewater collection systems are shifted to District government.
- ❖ Model 3B, Blue Plains-Only Regional Authority: WASA retains control over Blue Plains, the PI, and the District's wastewater collection system (thus maintaining a regional approach to wastewater collection and treatment). Management of the District's water distribution is shifted to District government.
- ❖ Model 4A, Expanded Regional Authority: WASA retains the same functions and facilities as the existing authority and attains control over the Aqueduct drinking water facilities through the formation of an interstate compact.
- ❖ Model 4B, Expanded Regional Authority: WASA retains the same functions and facilities as the existing authority and attains control over the drinking water and wastewater facilities of the Washington Suburban Sanitary Commission ("WSSC") through the formation of an interstate compact.
- ❖ Model 4C, Expanded Regional Authority: WASA retains the same functions and facilities as the existing authority and attains control over the Aqueduct drinking water facilities, WSSC's drinking water and wastewater facilities, and all other

major water and wastewater treatment facilities in the region through the formation of an interstate compact.

- ❖ Model 4D, Expanded Regional Authority: A wholesale water and wastewater regional authority is created with Blue Plains, the PI, and the Aqueduct drinking water facilities. Responsibility for the District's water distribution and wastewater collection systems are shifted to the District government.²⁴⁴

COG evaluated legal, governance, technical, and financial issues associated with each one, and discovered that most of the regionalization models had many issues in common. These key areas of concern that COG estimated would dominate negotiations were: (1) asset transfer, (2) board composition, (3) governance of employees, (4) relationship to District government, (5) regulatory policy, (6) existing agreements/contracts, and (7) time and resource commitment for negotiations.²⁴⁵ COG also conducted a survey of the financial and business statistics of WASA, the Aqueduct, and WSSC at the Committee's request. The expanded regional authority models, which adds some or all of the Aqueduct and/or the WSSC facilities to those already under the WASA umbrella, raised a significant number of issues that would have to be resolved among all necessary parties.

At the present time, we recommend that WASA revive its deliberations on creation of an expanded regional water authority by means of an interstate compact. Because the effects of environmental laws regulating drinking water, wastewater and discharges to water supplies are not limited by local boundaries, regional solutions should be considered. The burden of meeting these specific demands should be shared across the region and local governance would ensure that public concerns are included in the debate on important public health decisions. The success of WASA to date in forming a regional approach to water issues give us optimism that WASA's future as an expanded authority could be successfully navigated.

D. SPECIFIC WASA RECOMMENDATIONS

- ❖ We recommend that authority over the D.C. Aqueduct be transferred from the Corps to WASA. Management of both the water source and distribution system in one entity would create greater efficiencies and would place accountability in the local authority for compliance with public health directives. In addition, the Corps as a public works agency, lacks adequate incentives to balance costs of compliance with environmental benefits.
- ❖ WASA should designate a senior level manager directly reportable to the general manager and the Board with exclusive responsibility for environmental compliance.
- ❖ The Environmental Manager or Manager of Environmental Compliance would be responsible for developing and implementing an environmental management system throughout the water authority, the results of which would be reported to the general manager and the board on an annual basis. The environmental management system would include an annual environmental audit, and the preparation of capital and operating budgets for environmental matters.

- ❖ The Director of Environmental Compliance should be supported by internal managers and technical staff with environmental expertise at all levels of the organization including outside or inside laboratory support to perform necessary sampling and analysis on a dedicated basis.
- ❖ The WASA Board should establish a Board-level committee on environmental compliance to review WASA's efforts at maintaining its obligations under environmental laws, addressing capital and operating problems as they arise, and presenting to the Board matters of environmental policy that require attention. In addition, as part of an environmental management system and good governance, the Board level committee could be available to the extent online managers feel that matters of regulatory concern are not receiving attention.
- ❖ WASA should establish as part of its mission a commitment to public health in deed as well as in word. To that end, the Mayor's appointees to the WASA Board should include representatives with expertise in public health, environmental compliance engineering and related specialties that can provide independent assessment of important matters of public policy. To the extent Board membership proves unduly burdensome for candidates with such qualifications, an advisory council comprised of such experts or people with government experience or expertise in environmental law and regulation might be considered. WASA should establish a liaison to DOH or the new Department of Environmental Protection. WASA should not rely on an interagency task force to deal with emergency situations.
- ❖ WASA should continue to use the D.C. Council oversight hearings as an opportunity to inform the public on its efforts to meet environmental obligations across the board. These hearings have proven to be an effective mechanism over the years and are an appropriate means of District oversight of WASA's operations.
- ❖ WASA should consider breaking out in its operating and capital budgets specific line items for environmental compliance and developing a schedule for major regulatory obligations over a five or 10 year period.
- ❖ WASA should consider revisiting its prior study on regionalization to determine whether creation of a regional water authority is timely and can meet its mission of service delivery and protection of water quality. WASA already consists of representatives of Maryland, the District and Virginia for discreet services. Although this recommendation may require creation of an interstate compact among the District, Maryland and Virginia and may raise complicated legal and political issues, such a regional authority offers efficiencies and expands the burden of many significant undertakings to a wider base of ratepayers.

IV. Public Disclosure

As shown above, WASA did not meet its public disclosure obligations under the LCR. The rule, however, suffers from many flaws in establishing a meaningful communication strategy. Most notably, by failing to address residents when individual sampling falls below 15 ppb, the current rule ignores the significant health risks posed by exposure to lead at those levels. For these reasons, we examine some alternative solutions, including congressional proposals and examples of effective communications programs in Boston and Portland, each of which goes beyond the requirements of current law. We then offer a specific solution for the District.

A. PARTIAL SOLUTIONS

After disclosure of the elevated lead levels in District's drinking water, a number of public meetings were convened with representatives of WASA and DOH, resulting in proposals on improved communication. Subsequently, EPA also made recommendations to WASA on the communications aspects of lead levels facing the District. These proposals, the Interagency Task Force Report, the EPA Report, the EPA Consent Order, the Holder Report, and the Interim Inspector General's Audit Report proved to be helpful partial solutions, but only some of these reports addressed the effectiveness of the communications requirements of the LCR. As it was outside the scope of their objectives, those reports did not address in detail all of the LCR's shortcomings.

In response to the lack of coordination and communication between WASA, DOH, EPA and other agencies, Mayor Williams and Councilmember Schwartz established an Interagency Task Force on February 11, 2004. The Task Force issued its final report on April 22, 2004. Of primary importance to the Task Force was clearly and consistently communicating information to the public concerning the increased lead levels in the drinking water.²⁴⁶ The final report chronicles the Task Force's efforts in attempting to achieve this goal during the crisis; nonetheless, while the Task Force recommended that WASA improve its communication with the Mayor, the D.C. Council, DOH and the public, it did not make specific suggestions for doing so.²⁴⁷ Similarly, the report recommended that WASA continue to consult EPA regarding the lead issue.²⁴⁸

On April 30, 2004, the EPA issued "Recommendations for Improving the Washington D.C. Water and Sewer Authority Lead in Drinking Water Public Education Program" in which the EPA identified four shortcomings in WASA's education program: (1) WASA failed to communicate a sense of urgency in its outreach efforts (print/broadcast materials, verbal communication with public, or other means); (2) WASA failed to convey adequately information to the intended audience due to ineffective materials, overly technical language, lack of attention to targeting populations of concern, and other factors; (3) WASA did not provide for sufficient involvement of the affected public in development of a communications strategy; and (4) WASA lacked sufficient tracking or measures to determine success of outreach efforts.²⁴⁹ Furthermore, in its report, EPA confirmed that WASA failed to comply with several of the public disclosure requirements in the LCR, including: failure to use the required language for public service announcements submitted to television and radio stations for broadcasting; failure to use the required language in notices inserted in water utility bills; failure to

conduct public service announcements every six months (one was missed); and failure to send written documentation on these efforts to EPA within the required timeframe.²⁵⁰

Additionally, EPA identified ways WASA could improve its public communication program: (1) hire a consultant; (2) conduct internal communications audits; (3) develop strategic communications plans; (4) include stake-holders in decision-making; and (5) track effectiveness of communications. These suggestions, however, are essentially a reformulation of those actions already recommended by EPA in its Guidance.

In June 2004, EPA and WASA executed an Administrative Order for Compliance on Consent (the “Order”). Although the Order sets forth the ways in which WASA failed to comply with the public disclosure requirements of the LCR, it does not go beyond the LCR in attempting to improve public communication and disclosure. In fact the only “additional” requirement the Order establishes is for WASA to submit to EPA a public communications plan²⁵¹ — a recommendation found in the EPA Guidance Document for every water utility.²⁵²

The Holder Report also made recommendations based on its investigation of WASA’s management of lead monitoring activities. The Report summarized WASA’s public disclosure efforts and found that WASA’s outreach program materially complied with the LCR, but was ineffective in conveying a sense of urgency relating to elevated lead levels in drinking water.²⁵³ The Report further suggested that this failure may have resulted from the ineffectiveness of the LCR.²⁵⁴ To address those shortcomings, the Holder Report suggested that: (1) WASA obtain the advice of expert consultants on how to more effectively communicate risk to the public; (2) WASA organize a task force to address public health communications when the Action Level is exceeded; and (3) WASA undertake a review to ensure that its customer service division has sufficient resources.

On September 22, 2004, Austin A. Andersen, the Interim District of Columbia Inspector General, testified before the D.C. Council’s Committee of Public Works and the Environment on the initial findings and recommendations resulting from the audit of elevated levels of lead in the District’s drinking water (the “Audit”). The Audit, which was conducted by the DCOIG at the request of the Mayor, and Councilmembers Schwartz and Fenty, focused on management and performance issues to determine whether management controls were in place to ensure WASA was effective, timely and accurate in disseminating critical information within WASA and to external stakeholders.²⁵⁵ The interim audit report concluded that WASA could have been better prepared to deal with issues related to elevated lead levels in the drinking water.²⁵⁶ Like the other reports assessing WASA’s communication and public education efforts, the Audit found WASA’s correspondence with its customers did not satisfy the LCR, was not clear and concise, and did not convey a sense of urgency.²⁵⁷ Andersen testified that, despite WASA’s recent progress in its communication efforts, “it can further improve its communication efforts and education program for notifying the public about the condition of the drinking water, educating consumers about the potential health effects of higher concentrations of lead in their drinking water, and any necessary precautionary measures that need to be taken to protect themselves from lead exposure.”²⁵⁸ However, Andersen’s testimony did not make specific suggestions for improving these programs.

B. CONGRESSIONAL PROPOSAL

On May 4, 2004, Senator Jeffords introduced a bill in the U.S. Senate and Congresswoman Eleanor Holmes Norton introduced a companion bill in the House to amend the SDWA to ensure that the District and states are provided a safe, lead free supply of drinking water. As part of the proposed amendment, the public disclosure requirements would be significantly improved to include, among other things: (1) detailed information on the number of residences tested and the areas in which those residences are located, including a description of lead levels found in the drinking water; (2) the presence or absence of non-lead free service lines for each household; (3) the potential adverse health effects of lead contamination of drinking water, including a detailed description of the disproportionate adverse effects of lead contamination of drinking water on infants, children, and pregnant and lactating women; (4) reasonably available methods of mitigating known or potential lead contamination of drinking water, including a step-by-step description of immediate actions that should be taken and a summary of more extensive actions that could be taken; (5) any steps the community water system is taking to mitigate lead content in drinking water, including a description of the manner in which at least one other community water system has successfully addressed unacceptable levels of lead in drinking water; and (6) contact information for medical assistance, including state and local agencies responsible for lead programs.

The disclosure would focus on: (1) alerting parents, caregivers, and other individuals and entities of the significantly greater risks to infants, children and pregnant and lactating women posed by lead contamination of drinking water; (2) encouraging individuals and entities threatened by lead contamination in their drinking water supply to immediately modify behavior and follow other recommendations in the notice to minimize exposure to lead in drinking water; and (3) warning of health risks associated with lead. The timing for the disclosure would also be reduced from 60 days to 30 days after the date of exceedance of the Action Level and would be repeated every 90 days thereafter (as opposed to the current requirement of every 12 months) for as long as exceedance continues. Additionally, within 14 days after the date of receipt of any lead test results, the water system must provide results of the water tested to the owners and occupants of the residence.

The Jeffords bill also proposes changes to the public disclosure program in the LCR. First, it would require the water system to establish and carry out a permanent public communications program on lead in drinking water — regardless of whether it has exceeded the lead Action Level — one that includes an action plan, task force, and water testing program. Second, the contents of the materials would include, among other things, information on the potential adverse health effects of lead contamination of drinking water, and an emphasis on alerting people to the greater risks of lead to infants, children, and pregnant and lactating women. Third, the water system would be required to deliver biannually the public education disclosure and notice, which would include the results of the most recent water testing. A water system could claim an exemption from these requirements if it has never exceeded the lead Action Level on or after June 7, 1991. No action was taken on the Jeffords bill in the 108th Congress.

C. LESSONS FROM OTHER JURISDICTIONS

All water systems must comply with the LCR, but those jurisdictions that go beyond the literal and technical requirements of the LCR are those with the most successful public disclosure programs and therefore have the most informed public. Two such cases in point are Boston, MA, and Portland, OR. Both of these jurisdictions take a broader approach to the lead issue by including in its education program information on sources of lead poisoning other than drinking water. Further, both programs address people who are not literally covered by the LCR, specifically, those people living in residences with levels of lead in the drinking water below 15 ppb. Ironically, the Portland program was approved by the State of Oregon in lieu of compelling construction of an expensive treatment plant to comply with the LCR following reports of excessive lead results for almost a decade. Similarly, according to press reports, Boston's water authority has exceeded lead levels repeatedly and has on occasion manipulated data to remain in technical compliance with the LCR. Nonetheless, these programs are effective in informing the public on the risks of lead.

I. BOSTON, MA

The Massachusetts Water Resources Authority ("MWRA") is the wholesale water provider for approximately 2.3 million customers, mostly in the metropolitan Boston area. Under an agreement with the Massachusetts Department of Environmental Protection, monitoring for lead under the LCR occurs in each of the communities that MWRA serves and the results are submitted together. Initial system-wide tap water monitoring results in 1992 showed a 90th percentile lead concentration of 71 ppb (meaning 10 percent of its samples scored at this level and above). According to MWRA, adjustments in corrosion control have led to a reduction in lead levels, but the 90th percentile lead concentration in MWRA's service area has still been above the Action Level in four of the seven sampling events since early 2000. Some questions have been raised about Boston's sampling methodology, however.

Nonetheless, the MWRA has an effective communications program, premised on transparency. The major factor in its success is the close working relationship MWRA has established with the State Department of Health: MWRA's public health project manager speaks to staff members at the Department of Health every day.²⁵⁹ In addition to daily communication between the agencies, MWRA enhances the community awareness by issuing weekly and monthly reports on water quality.²⁶⁰ MWRA also publishes a variety of materials that explain the facts about lead in the drinking water as part of its "Get the Lead Out" campaign. Twice a year, regardless of sampling results, MWRA mails a leaflet entitled, "Could There Be Lead in Your Tap Water?"

- ❖ Immediately in the first paragraph, it states that lead can be found in tap water and can pose a health risk.
- ❖ On page 2, it explains the type of serious health risks and on pages 3 and 4, it explains the EPA Action Level and the steps that one can take to reduce lead levels.

- ❖ MWRA also has a webpage that clearly reports the facts about lead in the MWRA's water.
- ❖ The first sentence found on the website reads: "In 2003, MWRA met every standard except for lead." This statement compares favorably to WASA's initial statement in its "Living Lead-Free in D.C." brochure that the water was safe and met or surpassed EPA requirements.²⁶¹

MWRA continues its campaign to explain the facts about lead, its health risks, the sampling results and what can be done to reduce elevated levels even when it is not required by the regulations to do so. The MWRA, in conjunction with the Department of Health, issues a leaflet and magnet called "Take a Minute to Get the Lead Out." On the front page of the leaflet and on the magnet's face it states, "Reduce your exposure to lead. Run your water until it's cold." Inside the leaflet, MWRA describes the risk of lead and recommends: not cooking with hot water, flushing the tap if it has not been used for six hours or more, and testing the water for lead. Additionally, MWRA supports a toll-free safe-drinking-water hotline, and uses public service announcements, interviews on radio and television talk shows, appearances at city councils and other local government agency meetings and articles in local newspapers to convey information. MWRA also conducted focus groups to judge the effectiveness of the public disclosure program and continually makes changes to refine the information about lead in drinking water. All of these actions are in addition to the requirements of the LCR and underscore the belief of the staff at MWRA that water presents health risks and that the LCR does not go far enough in addressing those risks.

2. PORTLAND, OR

The Portland Water Bureau (the "Bureau") provides drinking water to approximately 787,000 people in the Portland metropolitan area, nearly one-fourth of the population of Oregon. Since 1997, the city has exceeded the lead Action Level six times in 14 rounds of monitoring. Questions have been raised about Portland's failure to report samples exceeding the Action Level over several years.

The Bureau sought flexibility in complying with the LCR. The State of Oregon allowed the Bureau to implement a lead hazard reduction program as a substitute for the optimal corrosion control treatment requirement of the LCR. As mentioned above, this allowed Portland to avoid the expense of building a treatment plant. Portland's lead hazard reduction program is a partnership among the Bureau, Multnomah County and State of Oregon Health Departments of Health, and community groups. According to Bureau officials, the program consists of four components: (1) water treatment for corrosion control; (2) free water testing to identify customers who may be at significant risk from elevated lead levels in drinking water; (3) a home lead hazard reduction program to prevent children from being exposed to lead from lead-based paint, dust, and other sources; and (4) education on how to prevent lead exposure targeted to those at greatest risk from exposure.

Like the MWRA, the Bureau takes additional steps beyond those required by the LCR to achieve effective public communications. The Bureau works with the community, public health, environmental, business and media organizations and agencies to develop

educational activities and materials about lead hazards. Many Bureau publications, therefore, which are printed in a variety of languages, discuss lead poisoning from sources other than drinking water, in addition to the risk of lead in drinking water. The Bureau also sends out brochures and bill inserts specifically relating to the health effects of lead in the drinking water. It takes this action regardless of whether the drinking water sampling results trigger the LCR public disclosure program. These materials highlight that there currently are no elevated lead levels in Portland drinking water, but explain how to avoid possible exposure to lead from plumbing fixtures. The Bureau also runs advertisements at movie theaters, and on billboards and buses; supports a toll-free safe-drinking water hotline; and participates in community-outreach programs that, among other things, offer lead poisoning prevention workshops.

D. IMPROVING PUBLIC DISCLOSURE

The current public disclosure requirements of the LCR are inadequate and should be revised. By not requiring any action until the 15 ppb Action Level is exceeded, these requirements create a misleading impression by failing to address risks posed to public health at levels below 15 ppb. As is apparent from WASA's efforts, even literal compliance with the current regulations is often confusing or ambiguous to the public at large. The current regulations also do not provide clear options to the public to respond to levels of lead detected in the drinking water. Finally, experience from other jurisdictions shows that a direct explanation of the risks of lead exposure and a transparent system of compliance can be developed and made available throughout the community, which should be a principal goal of these public information requirements. We are pleased that WASA has obtained a prominent communications firm to assist it in addressing those requirements.

E. SPECIFIC DISCLOSURE RECOMMENDATIONS

I. COMMUNICATIONS WITH THE PUBLIC

- ❖ WASA should send a letter to every resident whose water has been sampled explaining in clear language reports on the significance of the results and the options available to respond to the sampling results. The level of concern should reflect the actual level of risk.
- ❖ A brief (one page) discussion of the risks of lead contamination should be prepared similar to the one currently in use in Boston. This document avoids the technical jargon called for by current law and regulations and should be comprehensible by the public. This document also can be placed on a website to enhance its reach to the population at large.
- ❖ Like other jurisdictions, WASA should submit to the DOH or a new Department of the Environmental Protection a monthly water quality report. This report should also be available on-line and to interested citizens by request. These reports also should track complaints received by WASA concerning water quality from different constituencies.

- ❖ Any pamphlets and brochures distributed to public schools, DOH, Head Start programs, pediatricians, family planning clinics and local social service agencies should be standardized and prepared in advance so that they are readily available for distribution upon notice of contamination.
- ❖ WASA should prepare an annual report on its efforts to comply with all of its water quality obligations. The annual report should build on the transparency and regularity of the monthly reports on water quality. It should be distributed throughout the city. The D.C. Council as part of its oversight should provide WASA with an opportunity to present the results and should question WASA both about its efforts to maintain compliance going forward and its efforts to bolster areas that are weak.
- ❖ With respect to replacement of lead fixtures in schools and daycare centers, WASA should prepare a letter that can be used by school authorities and daycare providers to their customers explaining the steps that are being undertaken and the meaning of the sampling results detected at the particular location.
- ❖ WASA should not rely solely on the EPA consent decree to resolve its public communications obligations. As discussed more fully above, the current language of the LCR is inadequate to address public concerns and to provide meaningful information on how to mitigate risks. Accordingly, we recommend WASA rely on its consultants to develop a crisis communications program and public outreach effort going well beyond current regulations.

2. EMERGENCY PLANNING

- ❖ WASA should develop an emergency plan that responds to different categories of crisis. WASA should identify three to four different categories of water-related situations and establish a protocol for handling each, including who is to lead the response, who should be contacted and in what order, which government agencies to involve and at what time, what media outlets to contact, and by whom that message is to be delivered. WASA should develop generic messages for use in each of these scenarios and establish a triggering event for implementation of the plan that has a lower threshold than legal requirement. For example, initial notification under the LCR is 60 days following exceedance, which is not responsive to the situation.
- ❖ In an emergency situation, WASA should establish a public telephone hotline for emergency-related questions as well as a web page with updated news and commonly asked questions and answers regarding the crisis.
- ❖ In the event of an emergency, coordination between WASA and the DOH or Department of Environmental Protection will be essential to prepare authorities to assess data, provide assurances to the public and respond to the situation at hand.

3. COMMUNICATIONS WITH OTHER AGENCIES AND PROFESSIONALS

- ❖ WASA's director of communications should develop relationships with the media and be familiar with technical issues in order to respond to questions on the development of any health emergencies. This person should work closely with WASA's new Director of Environmental Compliance and should also coordinate any emergency responses with the DOH or new Department of Environmental Protection to avoid inconsistent messages.
- ❖ As part of an extensive outreach effort, WASA should bring together public health professionals and representatives of water departments to discuss ongoing issues on a regular basis. In so doing, a consensus can often form on strategies to respond to various public health issues affecting the water supply. Primary care physicians and other health care providers, medical educators and healthcare columnists and news media can play a critical role in informing the public of water quality issues. A similar effort should be made with nursing schools, health science campuses, professional associations and continuing education meetings where health professionals come together to learn from each other.
- ❖ WASA should continue to put clear and comprehensible information in bill inserts regardless of the results of sampling at a particular residence. WASA should consider advertising at movie theaters, on billboards and buses and should sponsor a toll-free safe drinking water hotline as part of an overall community outreach program.

V. Conclusion

The events of 2004 concerning disclosure of elevated levels of lead in the District drinking water have revealed a local regulatory program that created a false sense of security about drinking water quality, provided insufficient disclosure to the public, and is in need of substantial reform. The LCR has suffered from lack of enforcement and inattention from regulators and from provisions that are subject to abuse. WASA and other utilities have manipulated sampling results to remain in technical compliance with the law, thereby avoiding the costs and other burdens of disclosure and lead line removal. In addition, the research conducted on health effects of lead since promulgation of the LCR have demonstrated that the current program no longer effectively addresses the risks of exposure to lead in drinking water. Homeowners should share some of the responsibility for reducing the presence of lead in drinking water through purchase of lead-free fixtures, removal of interior pipes containing lead, and installation of filters.

The substantial failings of the current LCR call for reform in the management of drinking water in the District of Columbia. First among these reforms is the assumption by the District of primacy, the authority to enforce the LCR and revision of the LCR by District authorities so that drinking water standards for lead are more stringent than current law. As part of that commitment, the District must ensure that it has leaders with public health expertise, staff and resources to support this effort, and accountability to the Mayor, D.C. Council and the public through consolidation of management. The District should have the same responsibilities as do 49 other states to ensure the safety of drinking water for its residents.

WASA has been an effective agency in stabilizing the finances of the water authority, creating a strategic plan to upgrade infrastructure, and providing strong leadership on these issues. WASA should now take the next step and acquire the D.C. Aqueduct and renew its debate on expansion as a regional water authority. At the same time, it should adjust its management structure to reflect a similar commitment to its public health mission, including adjustments to its governance, management culture, and systems of monitoring compliance. WASA's efforts to communicate public health information to the residents it serves — not limited to requirements of the LCR — also require an overhaul. To its credit, WASA has begun important steps in addressing these problems.

A District-run effort to reduce the presence of lead in drinking water requires leadership on the part of the Executive and Legislative branches of the District government. The Mayor must be committed to retaining highly qualified personnel to run the DOH or a new Department of Environmental Protection and must ensure that any leader can be heard in health emergencies. The D.C. Council should continue its oversight of WASA and DOH focusing on efforts to comply with environmental laws and providing the funding necessary to realize those commitments. In so doing, public confidence in a broken system can be restored.

Finally, Congress should undertake a debate on the federal LCR and the management of lead in drinking water occurring across the nation. We hope to contribute to that discussion and believe that the recommendations we have proposed for the District can help frame that discussion and, potentially, serve as a model for reform nationwide.

ACTION PLAN FOR PROPOSED RECOMMENDATIONS

Organization	Proposed Recommendations
<p>District of Columbia Water and Sewer Authority (WASA)</p>	<p><u>Governance Reforms</u></p> <ul style="list-style-type: none"> • Include some representatives with expertise in environmental law or public health regulation on the Board of Directors. • Establish a Board-level committee on environmental compliance. • Designate a senior level manager as Manager of Environmental Compliance reporting to the General Manager and the Board of Directors. • WASA should develop and implement an environmental management system throughout the water authority. • Cooperate with the Department of Health or new Department of Environmental Protection to review sampling and other data and, pending transfer of the D.C. Aqueduct, cooperate with the Army Corps of Engineers to maintain regular and effective public communications on drinking water issues. <p><u>Structural Reforms</u></p> <ul style="list-style-type: none"> • With support and authorization of the District Government, negotiate the acquisition of the D.C. Aqueduct from the Army Corps of Engineers through an interstate compact with representation. • Revive deliberations on creation of an expanded regional water authority and, with Board approval, negotiate an interstate compact with representatives of Maryland, Virginia and the District.

Organization	Proposed Recommendations
	<p data-bbox="727 216 1027 247"><u>Public Communications</u></p> <ul data-bbox="756 268 1218 1711" style="list-style-type: none"> <li data-bbox="756 268 1218 472">• Notify residents of lead levels in their drinking water and provide warnings about possible health effects, as well as recommendations on how to avoid excessive lead in their drinking water. <li data-bbox="756 493 1218 661">• Depending on the tested levels of lead (below 5 ppb, 5 to below 10 ppb, 10 ppb and above), provide specific information on health effects and ways to mitigate lead exposure. <li data-bbox="756 682 1218 997">• Submit to the DOH or the new Department of Environmental Protection a monthly water quality report. This report should also be available on-line and to interested citizens by request. These reports also should track complaints received by WASA concerning water quality from different constituencies. <li data-bbox="756 1018 1218 1113">• Prepare an annual report on its efforts to comply with all of its water quality obligations. <li data-bbox="756 1134 1218 1438">• Prepare a letter about the replacement of lead fixtures in schools and daycare centers that can be used by school authorities and daycare providers to explain to their customers the steps that are being undertaken and the meaning of the sampling results detected at the particular location. <li data-bbox="756 1459 1218 1596">• Develop a crisis communications program and public outreach effort going well beyond current regulations. <li data-bbox="756 1617 1218 1711">• Develop an emergency plan that should respond to different categories of crisis.

Organization	Proposed Recommendations
	<ul style="list-style-type: none"> • In an emergency situation, establish a public telephone hotline for emergency-related questions as well as a web page with updated news and commonly asked questions and answers regarding the crisis. • WASA’s Director of Communications should develop relationships with the media and be familiar with technical issues in order to respond to questions on the development of any health emergencies. Also, work closely with WASA’s new Director of Environmental Compliance and coordinate any emergency responses with the DOH and the new Department of Environmental Protection to avoid inconsistent messages. • Bring together public health professionals and representatives of water departments to discuss ongoing issues on a regular basis. • Put clear and comprehensible information in bill inserts regardless of the results of sampling at a particular residence, and consider advertising at movie theaters, on billboards and buses. Also sponsor a toll-free safe drinking water hotline as part of an overall community outreach program.
Army Corps of Engineers	<ul style="list-style-type: none"> • Negotiate a transfer of part or all of the D.C. Aqueduct to WASA.

Organization	Proposed Recommendations
<p>District of Columbia Department of Health (DOH)</p>	<ul style="list-style-type: none"> • Seek primacy from the EPA to enforce the Safe Drinking Water Act, including the Lead and Copper Rule. • Assess the adequacy of technical and enforcement staffing and budget to implement and enforce a new District-promulgated LCR with standards more stringent than current law. • Promulgate the revised District LCR as proposed by DC Appleseed. <p>The critical component of DC Appleseed’s reforms are:</p> <ul style="list-style-type: none"> • Implement and complete full lead service line replacement within five years (including portions of lines on private property) at WASA’s expense. • Invite all residences in the water distribution system to have the water tested free of charge, and provide results and recommendations to each residence tested. • Eliminate use of lead-containing water service parts such as water meters, and begin phase-out of existing lead-containing water service parts. • Continue full-time use of corrosion inhibitors in the water distribution system. • Cooperate with WASA in enforcing and overseeing compliance with the new LCR. • Implement an environmental management system with DOH or the new Department that creates a culture of reporting compliance problems to the top of the agency so that public confidence can be restored in the District’s efforts to meet its obligations to provide clean drinking water. • Develop informal and regular contacts with counterparts in Maryland and Virginia with authority for regulating drinking water to provide technical and other support.

Organization	Proposed Recommendations
Environmental Protection Agency (EPA)	<ul style="list-style-type: none"> • Work with the District of Columbia in its effort to obtain primacy to enforce the Safe Drinking Water Act, including the LCR. • Continue to provide technical support to the District.
District of Columbia Government Office of the Mayor	<ul style="list-style-type: none"> • Review the structure and staffing of the Environmental Health Administration (“EHA”) and its leadership to determine the best management structure to enforce and implement a District LCR. • As part of that effort, consider the strengths and weaknesses of creating a new Department of Environmental Protection to manage the District’s public health responsibility. Evaluate the leadership of EHA or new Department to ensure access to the Mayor and public accountability. Seek and retain highly qualified public health professionals for senior level positions. • Evaluate the adequacy of enforcement staff at EHA and the Office of the D.C. Attorney General to ensure coordination of environmental enforcement efforts. • Work with WASA on negotiating an interstate compact authorizing the transfer of the D.C. Aqueduct from the Corps of Engineers to WASA. • Appoint WASA Board members with public health or environmental enforcement expertise.

Organization	Proposed Recommendations
D.C. Council	<ul style="list-style-type: none"> • Continue regular oversight of WASA’s environmental compliance and increase oversight of environmental matters, including adequacy of budget and staffing of the Department of Health or new Department of Environmental Protection. Adopt legislation creating the Department of Environmental Protection, with consultation with the Mayor’s office. • Adopt legislation authorizing WASA to acquire the D.C. Aqueduct and review and approve the interstate compact authorizing the transfer. • To the extent necessary, provide WASA with authority to repair and replace service lines on private property, with reasonable notice to the homeowner. • In consultation with the Mayor’s office, evaluate the merits of creating a Department of Environmental Protection for the District. • Use confirmation authority to ensure all senior level staff at the DOH or new Department of Environmental Protection will provide strong leadership and accountability on public health issues

Organization	Proposed Recommendations
United States Congress	<ul style="list-style-type: none"> • Amend the District of Columbia Home Rule Charter with respect to authority to enforce regulations against the U.S. Army Corps of Engineers, if necessary. • Review and approve the interstate compact authorizing the transfer of the D.C. Aqueduct to WASA. • Review and approve any subsequent compact expanding WASA into a regional water authority. • Review the state of compliance nationally with the current LCR and adopt substantial reforms and direct EPA to develop implementing regulations based on DC Appleseed recommendations.



APPENDIX A

I. CHRONOLOGY OF THE DISTRICT'S COMPLIANCE WITH THE LEAD AND COPPER RULE

The following is a chronology of events leading up to and including the public disclosure of high levels of lead in the District's drinking water system. The milestones recited establish the lack of urgency in considering and approving a corrosion control method for the water supply, the necessary first step to comply with the LCR. WASA, through low level employees and without awareness of management, repeatedly manipulated data to remain in technical compliance with the rules thereby avoiding disclosure of lead line replacement obligations. The fragmented structure of water management has resulted in poor decision-making on substantive and technical issues. Management divided among four different agencies has led to poor communication among those responsible agencies and the public, little oversight of regulatory compliance by the District's DOH in part due to its lack of enforcement authority, EPA's limited oversight, and belated efforts by all authorities to respond to the report of widespread exceedances of lead in the drinking water over the past six months. This story reinforces the need for significant revisions to the LCR and an end to the fragmented structure of management of drinking water that has exacerbated the situation.

- ❖ ***June 1991: Lead and Copper Rule:*** The Lead and Copper Rule ("LCR") was promulgated by EPA.
- ❖ ***1993: EPA Exercises Emergency Authority in Response to Bacteria Outbreak:*** EPA used its emergency authority when harmful coliform bacteria contaminated the District's water in 1993.²⁶² It announced that the District would be assessed a \$5,000 daily fine until officials properly informed residents of the risk.²⁶³ This was the last time EPA exercised its emergency authority in D.C.

- ❖ ***June 1994: Phosphates Shown to be a Less Corrosive, Albeit More Costly, Alternative:*** In 1994, as required by the LCR, the Army Corps of Engineers (“the Corps”) commissioned a report on water corrosivity from ECG Inc. (“ECG”) that compared the use of phosphates, specifically zinc orthophosphate, with that of lime.²⁶⁴ The study was released in June 1994 and the results from the tests indicated that zinc orthophosphate was considerably less corrosive than lime and thus more likely to reduce the levels of lead in the drinking water supply. Nevertheless, the study recommended that lime be used because phosphates would cost \$870,000 a year more than lime.²⁶⁵ The Corps chose lime. Corps’ officials have stated that, apart from the fact that their customers raised concerns about adopting the consultant’s recommendation, they did not implement a change in response to the consultant’s report because EPA never expressed concern about their water treatment plan. Although WASA was not established until 1996, WASA officials have commented that the District made the decision to support the Corps’ water treatment plan because phosphates were more expensive and unproven.²⁶⁶
- ❖ ***November 1995: Proposed Administrative Order:*** In response to several violations of drinking water standards unrelated to lead in the District dating back to 1993, EPA proposed entering into an Administrative Order with the District. Due to government shut-downs, the negotiations on the terms of the Administrative Order were prolonged until Summer 1996.²⁶⁷
- ❖ ***May 1996: ERA Responsibilities Shifted to D.C. DOH:*** As part of a reorganization of District functions in May 1996, the Mayor transferred several key environmental health functions, including the responsibility for monitoring the District’s drinking water, from the Environmental Regulation Administration (“ERA”) of the Department of Consumer and Regulatory Affairs to the Environmental Health Administration of the D.C. Department of Health (“D.C. DOH”). However, in September 1997, W. Michael McCabe, EPA regional administrator, criticized the District for failing to require the D.C. DOH to perform key functions previously performed by the ERA.²⁶⁸
- ❖ ***June 1996: EPA Issues Reprimand:*** When bacteria were discovered again in the District’s drinking water, EPA threatened to take legal action and fine the District \$25,000 a day if it did not fix 1,286 miles of pipe.²⁶⁹ Additionally, EPA gathered and analyzed samples of the District’s water every day, created a consumer hotline with daily updates, and organized a team of experts to work on the crisis.²⁷⁰
- ❖ ***July 12, 1996: Administrative Order Approved:*** The District and EPA signed an Administrative Order and a consent decree which described how the District planned to improve the quality of the water-distribution system and imposed stricter federal controls on the District’s tap-water system.²⁷¹ In particular, the drinking water order established a public notification system, created a new monitoring and sampling plan, developed improved programs for facilities including a corrosion control treatment and monitoring program, and required reports on the District’s progress.²⁷²

- ❖ ***October 1996: WASA Created:*** WASA, a quasi-independent agency, was developed as a replacement for the Water and Sewer Utility Administration in order to solve the problems the District was facing with respect to the quality of tap water²⁷³ and to respond to objections by the suburbs after nearly \$80 million in revenue raised by the utility was used for other District programs.²⁷⁴ Congress passed legislation in order to help WASA raise capital funds from the bond market. In addition, the 1996 Safe Drinking Water Act amendments provided \$12.6 million and \$7 million in 1997 and 1998 respectively to help WASA improve its systems.²⁷⁵ Jerry Johnson was hired as WASA general manager to make the utility run more efficiently and improve its infrastructure.²⁷⁶
- ❖ ***1997: Interstate Compact Discussed:*** Under a provision of the 1996 Safe Drinking Water Act amendments, the D.C. Aqueduct was expected to transfer the responsibility for ownership of the Aqueduct to a non-federal entity within two years.²⁷⁷ In response, a proposal was made to form an interstate compact to establish an independent agency which would have authority over the D.C. Aqueduct. This proposal was deferred.
- ❖ ***1997: EPA Research Indicates Phosphates Should be Required in Water Treatment Plans:*** Jonathan Clement, an EPA consultant, determined that only two water treatment options would adequately limit lead contamination by controlling water corrosivity: (1) the water's pH level could be sharply increased or (2) the water's pH level could remain the same but include an additional phosphate. Thomas Jacobus, Manager of the D.C. Aqueduct, objected to both options because the first option would generate a maintenance problem and the second option would be too expensive. Ultimately, EPA and its consultants agreed with Jacobus due to concerns that adding phosphates might lead to additional water quality issues, mainly as a result of the interaction between phosphates and the unlined cast iron pipes used in the District. On July 15, 1997, George Rizzo, the EPA official responsible for the District's water, conditionally approved a corrosion plan that maintained a low pH level without adding a phosphate.²⁷⁸
- ❖ ***Summer 1999: WASA Reports Inadequate Number of Samples:*** WASA tested 11 of the 104 submitted samples after the end of the January to June 1999 monitoring period. Consequently, the eleven samples, taken on July 1 and 2, 1999, did not count toward the total and WASA failed to comply with the LCR by relying on an inadequate number of samples.²⁷⁹
- ❖ ***February 29, 2000: EPA Grants Final Approval of Water Treatment Plan Without Phosphates:*** After WASA performed additional water analysis required by EPA's conditional approval of its water treatment plan in 1997, EPA granted final approval to the Corps' plan that did not use phosphates. EPA regional water manager, Richard Rogers, said that while experts hired by EPA originally recommended the use of phosphates, officials agreed that lime should be used because phosphates may encourage bacterial growth.²⁸⁰

- ❖ ***November 2000: Water Treatment Switched from Chlorine to Chloramines:*** The Corps switched from chlorine to chloramines, a combination of chlorine and ammonia, in order to comply with EPA's disinfection by-product rule.²⁸¹ In switching from chlorine to chloramines, the Corps did not consider EPA's written guidelines warning that a change in chemical composition might lead to increases in corrosion and a survey performed by the American Water Works Association Research Foundation which found specifically that high levels of chloramines led to an increase in corrosion.²⁸² Jacobus, manager of the D.C. Aqueduct, has stated that the Corps did not pursue research on the effects of chloramines on corrosion because neither customers nor federal officials requested an investigation.²⁸³ Rogers, EPA regional water manager, has stated that while EPA had the authority to require the Corps to test the impact of chloramines on corrosion, nothing was required because no other utilities were having problems in replacing chlorine with chloramines. Recent tests suggest that the switch may have been at least partially responsible for the increase in lead levels in the District's water supply.²⁸⁴ WASA general manager, Jerry Johnson, has said in recent media reports that agency engineers believe the switch to chloramines triggered the contamination problem.²⁸⁵
- ❖ ***2001: Testing Reveals High Levels of Lead:*** During the 2000-2001 monitoring period, WASA was required to test 50 sites over a one-year span under the LCR. Even though retesting confirmed that the samples exceeded the Action Level, only four of the samples were reported to EPA.
- ❖ ***End of 2001: D.C. DOH Employee Requests Continuation of Lead Service Line Replacement Program:*** Jerusalem Bekele, a D.C. DOH employee, urged both EPA and WASA to reinstate a program of lead service line replacement which was terminated in 1990 for budgetary reasons. Bekele had repeated contact with both agencies throughout 2002 and requested that money be allocated to replace lead service lines, in particular for those homes with children. She made her request in response to calls from concerned residents and the fact that 7 percent of the District's children had tested with elevated levels of lead.²⁸⁶
- ❖ ***May 2002: EPA Again Endorses Water Treatment Plan Without Phosphates:*** George Rizzo, the EPA official responsible for the District's water, offered continued support for the water treatment plan using lime instead of phosphates through a letter sent to Jacobus.²⁸⁷
- ❖ ***Summer 2002: Tests Show that Water Exceeds EPA Action Level:*** WASA's tests showed high levels of lead in half of 53 homes that were tested.²⁸⁸ No action was taken by the Corps according to Corps General Manager, Thomas Jacobus, because neither their customers nor federal officials requested a change.
- ❖ ***Fall 2002: EPA Response to Summer 2002 Test Results:*** WASA provided EPA with preliminary results indicating that WASA would exceed the lead Action Level in July 2002 and officially notified EPA that it had exceeded the Action Level on August 26, 2002.²⁸⁹ According to internal documents, EPA discussed the lead contamination problem and decided not to take action to change the chemical composition of the water. In November 2002, Chris Ball, EPA liaison

to the District, alerted his supervisors, Jonathan Capacasa, EPA Region III Director of Water Quality, and George Rizzo, the EPA official responsible for the District's water, that the test results might indicate that steps needed to be taken to fix the water treatment plan.²⁹⁰ EPA officials discussed the problem over the following months and ultimately decided that WASA was in compliance with all requirements. This decision was made in spite of an internal memo written by EPA staff members indicating that the increased levels of lead were likely due to corroding pipes and fixtures and that the switch to chloramines was probably the cause.²⁹¹

- ❖ ***Fall 2002: D.C. DOH Response to Summer 2002 Test Results:*** Ball also sent an e-mail to Theodore Gordon, deputy director of the D.C. DOH. It does not appear that officials in the D.C. DOH pursued the issue.²⁹²
- ❖ ***Fall 2002: Public Notification of Summer 2002 Test Results:*** Even though EPA did not require that WASA take action to change the chemical composition of its water, under the LCR, WASA was required to begin standard monitoring of tap samples, inform the public of the situation through an education program, and replace its lead service lines at a rate of seven percent per year.²⁹³ WASA began to conduct further testing and sent brochures to its customers.
- ❖ ***2002-2003: WASA Installs New Meters:*** Between 2002 and 2003, WASA replaced 130,000 meters with new meters containing 5 to 7 percent lead in an attempt to bill customers more accurately.²⁹⁴ WASA decided not to purchase meters which are used in California and contain "no lead" (0.25 percent lead). The federal standard considers meters containing up to 8 percent lead acceptable.²⁹⁵
- ❖ ***January 8, 2003: EPA Regional Administrator Briefed on Situation:*** Rizzo and Richard Rogers, EPA regional water manager, briefly discussed the water situation in the District with Don Welsh, EPA Regional Administrator. Rizzo told his superiors that WASA was in compliance with federal regulations and warned that adding phosphates to reduce corrosion would increase cost and possibly damage the environment.²⁹⁶ Welsh has since suggested that EPA deferred to WASA because officials were primarily concerned that WASA was in compliance with technical aspects of EPA requirements.²⁹⁷
- ❖ ***March 5, 2003: WASA General Manager's Comments to the D.C. Council:*** Jerry Johnson, WASA's General Manager, stated that WASA had met all EPA requirements for 77 consecutive months at a hearing before a D.C. Council committee.²⁹⁸
- ❖ ***Summer 2003: Tests Reveal High Levels of Lead in Thousands of Samples:*** After high levels of lead were discovered in the tests conducted in 2002, EPA guidelines required WASA to replace seven percent of its lines between October 2002 and September 2003 (approximately 1,600 lines).²⁹⁹ WASA only physically replaced 385 lines because EPA considered homes with lead levels below the federal limit to count as effectively replaced. However, in order to find homes with lead levels below the federal limit, WASA needed to conduct more

expansive testing. It was during these tests (measuring compliance during the period of January to June 2003) that more than 4,000 out of 6,000 homes tested positive for excessive levels of lead.³⁰⁰ WASA submitted these results to EPA on July 29, 2003.³⁰¹

- ❖ ***Fall 2003: Results of Lead Service Line Replacement Program:*** EPA received WASA's preliminary report on the status of the lead service line replacement program on September 20, 2003 and its final report on October 27, 2003, a month after the deadline. WASA reported that it had fully replaced 79 lines and partially replaced another 306. The remaining 1,241 lines were considered replaced because testing determined that the water from the lines did not exceed the Action Level.³⁰² Regulations required WASA to test the partially replaced service lines within seventy-two hours of replacement in order to ensure that the level of lead in the water had been reduced. WASA's policy is to leave a sample bottle with property owners for follow-up collection and analysis. For the convenience of both the property owner and WASA, EPA found that this is a reasonable practice. However, WASA only received follow-up samples from 147 of the 306 service lines partially replaced.³⁰³
- ❖ ***Fall 2003: EPA Response to Test Results:*** EPA retained consultants to determine whether a different water treatment plan could limit more effectively corrosion.³⁰⁴ EPA also found that WASA's brochure did not adequately convey to its customers the gravity of the lead contamination problem and neglected to use federally mandated language. Public service announcements did not indicate that the levels were "unhealthy" or "significant" or discuss how much a test would cost.³⁰⁵
- ❖ ***Winter 2003-2004: D.C. DOH Response to Test Results:*** Johnson, WASA General Manager, wrote a letter on December 22, 2003, to James Buford, director of the D.C. DOH, requesting help.³⁰⁶ Specifically, he asked that the capacity of the lead hotline be expanded and that health experts coordinate with WASA officials to attend community meetings.³⁰⁷ Johnson wrote again on January 28, 2004, after he received no response to his initial letter.
- ❖ ***January 26, 2004: WASA Exceeds the Action Level for the Third Time:*** WASA reported to EPA that during the compliance period of July to December 2003 the level of lead from the 90th percentile of the 108 homes tested was 63 ppb. Again, the LCR required WASA to disclose water quality conditions to the public and replace lead service lines.³⁰⁸
- ❖ ***January 31, 2004: Media Discloses Test Results:*** On January 31, 2004, the test results were widely reported in the media. WASA provided test kits to customers and organized a lead hotline.³⁰⁹
- ❖ ***February 4, 2004: D.C. Council holds first hearing on lead in drinking water***
- ❖ ***Early February 2004: Initial EPA Response:*** Although EPA announced that WASA had met all federal requirements,³¹⁰ EPA officials met with WASA and organized a Technical Experts Working Group — composed of scientists and

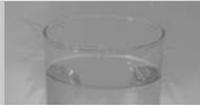
technical experts who would study the problem and develop recommendations for improving the quality of the water.³¹¹ On February 8, 2004, EPA launched an investigation into whether WASA had adequately complied with the LCR.³¹²

- ❖ **February 11, 2004: Interagency Task Force Formed**
- ❖ **February 25, 2004: District Issues Health Alert:** The District issued a health alert asking nursing mothers, pregnant women, and children younger than six in homes with lead service lines to avoid drinking unfiltered water.³¹³
- ❖ **March 2, 2004: D.C. Council Launches Investigation:** At the request of Councilmember Schwartz, the D.C. Council approved a special investigation in order to evaluate WASA's actions and ensure that the public remained properly informed.³¹⁴
- ❖ **Early March: WASA Reports Additional Lead Service Line Replacements:** WASA notified EPA that it had replaced 174 more lead service lines between October 1, 2003 and March 4, 2004. WASA did not specify how many lines were partially or fully replaced. Using its general practice of having property owners collect samples, WASA analyzed follow-up samples for 55 partially replaced service lines.³¹⁵
- ❖ **Late March 2004: EPA Sends Information Request to WASA:** In an information request sent to WASA on March 31, 2004, EPA shifted its position and stated WASA may have violated six areas of regulations.³¹⁶ In addition, EPA required WASA to send water filters or alternative water sources to 23,000 homes served by lead service lines, properly notify customers of the threat to the water supply, and report results from monthly tests more quickly.³¹⁷ WASA announced that it would expand testing to homes not served by lead service lines.³¹⁸
- ❖ **April 2, 2004: WASA Hires Toxicology Team:** In early April 2004, WASA hired a toxicology team from George Washington University to advise WASA on ways it could better serve and communicate with the public.
- ❖ **April 22, 2004: Interagency Task Force Report Released:** After its investigation, Mayor Williams and Councilmember Schwartz made 15 recommendations which included continuing programs to test for lead, improving communications between agencies, continuing lead service line replacement, stopping water rate increases, and considering obtaining primacy over the drinking water program.³¹⁹
- ❖ **April 23, 2004: WASA Meets with EPA to Discuss Information Request:** In late April 2004, EPA met with top WASA officials and discussed the March 31, 2004 letter which detailed six ways in which EPA believed that WASA violated federal regulations.³²⁰ Of particular importance was WASA's failure to perform follow-up analysis for all 398 homes with partially replaced lead service lines, its failure to adequately warn the public about lead contamination problems by not using federally mandated language, and its failure to include all sample results in its 2001 report to EPA.³²¹

- ❖ ***April 29, 2004: Lead Found in School Water Fountains:*** WASA released a report that found that there were 43 water fountains or sinks in D.C. schools with high levels of lead. In response, the D.C. DOH's interim chief medical officer, Daniel R. Lucey, ordered that all of the fixtures at issue be turned off and replaced with new ones.³²²
- ❖ ***April 30, 2004: Zinc Orthophosphate Recommended:*** After two months of study, the Technical Experts Working Group recommended the use of zinc orthophosphate, the same chemical compared in the 1994 ECG survey, in order to reduce contamination. On April 30, 2004, in a letter to WASA and the Corps, EPA approved a plan to add phosphates to the drinking water in a section of Northwest Washington on June 1, 2004 with the expectation that full implementation would occur prior to September 1, 2004. Officials expected it to take six months or more for the additional phosphate to reduce the levels of lead in the water.³²³
- ❖ ***May 4, 2004: D.C. Council Passes Additional Protections for Residents of MDUs:*** D.C. Council passes resolution requiring testing of multi-family dwellings if the owner receives a written request from a building resident.³²⁴
- ❖ ***May 28, 2004: Switch from Zinc Orthophosphate to Phosphoric Acid:*** The Corps, in consultation with WASA, announced that it planned to introduce phosphoric acid instead of zinc orthophosphate, the chemical recommended by the advisory board, into the water on June 1, 2004.³²⁵ The move was questioned by local government officials after they discovered that phosphoric acid costs thirty percent less than zinc orthophosphate. Both Thomas Voltaggio, EPA Deputy Regional Administrator, and Marcotte, WASA deputy general manager, noted Arlington County's concerns regarding the effect of zinc on its sewage operations and said that cost was not the motivating factor.³²⁶
- ❖ ***June 17, 2004: EPA Administrative Order:*** EPA found that WASA had failed to take samples within the monitoring period in 1999, perform follow-up monitoring of partially-replaced lead service lines, comply with requirements for public service announcements, use required language in written materials provided to its customers, provide accurate descriptions of the sampling criteria for most of the periods between 1998 and 2003, and report samples that exceeded the Action Level and take the necessary actions in response to exceeding the Action Level in 2001. WASA acquiesced with the Administrative Order without admitting to or denying the violations and agreed to fix the lead corrosion problem. WASA was not fined or otherwise sanctioned.³²⁷
- ❖ ***June 28, 2004: WASA Hires Public Relations Firm:*** WASA announced that it hired a public relations firm at a cost of \$100,000 in order to receive guidance on how better to inform the public about lead contamination.
- ❖ ***July 1, 2004: WASA Board Approves Plan for Partial Replacement of Lead Lines by 2010:*** WASA's board of directors agreed to replace partially more than 23,000 lead service lines by 2010. While some District officials, including the mayor, were concerned that the accelerated replacement would unnecessarily

inconvenience District residents, the WASA board unanimously voted to approve the ambitious \$350 million plan. WASA planned to replace 2,500 lines in the next two years and significantly increase the rate of replacement in the following years. WASA also has made arrangements with a bank to provide low-interest loans to residents who plan to replace the private portion of the lead service lines but who could not afford the approximately \$2500 cost.³²⁸

- ❖ ***July 16, 2004: Independent Report Released (“Holder Report”):*** An independent report commissioned by WASA criticized WASA, EPA, the DOH, and the Corps for failing to communicate and inform the public about the lead contamination problem. In particular, WASA was criticized for withholding test results in 2001 and failing to include federally required language in brochures. EPA was criticized for offering WASA conflicting advice. DOH played little role in responding in a timely manner to the recent events, although it lacked authority to do so.
- ❖ ***August 31, 2004: Class Action Suit:*** United States District Court Judge Henry Kennedy dismisses in part class action lawsuit brought by District residents against the District and WASA seeking injunctive relief, leaving in place claims for compensatory and punitive damages against WASA. Amy Harding-Wright v. WASA, et al, Civil Action No. 04-00558.
- ❖ ***September 22, 2004: D.C. Inspector General Testifies on Preliminary Results of its Audit of WASA***
- ❖ ***October 5, 2004: Senators Jeffords and Clinton call for EPA Inspector General to investigate allegations of abuse nationwide with the LCR***



APPENDIX B

2. FORMATION OF AN INTERSTATE COMPACT

The U.S. Constitution authorizes the use of interstate compacts to form regional authorities under Article I, Section 10, Clause 3. Essentially there are three steps for creating an interstate compact. First, each of the participating state parties appoints representatives to negotiate and draft the compact. Second, once all parties are in full agreement on every provision of the compact, each state submits the compact to its own legislature for approval. The states must submit identical legislation to their legislatures. Third, after the state legislatures assent to the compact's terms, in order for the compact to become effective, the U.S. Congress must also consent to its formation.³²⁹

One way in which Congress consents to a compact is by enacting federal legislation.³³⁰ The federal law will simply reprint the compact language previously submitted to the state legislatures.³³¹ Once the federal law is enacted it supersedes any prior law and takes precedence over any conflicting state law, regardless of when enacted. The Supreme Court recognizes congressionally sanctioned interstate compacts as federal law.³³² Congress and the federal courts can compel party compliance with the compact, making interstate compacts the most effective means of ensuring interstate cooperation.³³³

Despite constitutional commands, not all interstate compacts require congressional consent in order to have effect. In *Virginia v. Tennessee*, 148 U.S. 503 (1893), the Supreme Court held “congressional consent is required only for compacts and agreements that affect the ‘political power or influence’ of states or that ‘encroach . . . upon the full and free exercise of Federal authority.’”³³⁴ Though it is not always easy to determine when a compact falls within either of these two categories, compacts with a discriminatory impact against non-party states (*e.g.*, river basin agreements), or any compact that “touches on an area of mutual state-federal concern or threatens to interfere with the doctrine of federal preemption” will require congressional consent in order to be valid.³³⁵ This is particularly the case where the subject matter of the compact may affect Congress’ authority over interstate commerce. Typically, compacts concerning matters in which state authority is pre-eminent, *e.g.*, education, do not require

congressional consent.³³⁶ Where congressional consent is required, the Constitution does not specify the form it must take; compacts are approved by way of resolution or public law. Over time, the Supreme Court has held that congressional consent may be express or implied, and may be obtained before or after a compact is enacted by the individual state legislatures.³³⁷

After a compact goes into effect, issues of withdrawal and amendment are treated under principles of contract law.³³⁸ Like a contract, compacts constitute enforceable obligations and any violation of a compact's terms is subject to judicial remedy.³³⁹ As such, termination of a compact must be in accordance with the terms of the compact itself, or by mutual consent of the parties; individual state-parties cannot unilaterally withdraw.³⁴⁰ Unless otherwise provided for within the compact itself, amending a compact is governed by the same procedural demands required for original enactment. In other words, amendments must be approved by each state-party's legislature, and if congressional consent was required, Congress must also consent to the amendment.³⁴¹

Compacts may, however, include mechanisms for future amendments. For instance, the Jennings Randolph Lake Project Compact signed by Maryland, West Virginia, and the Corps, and which was consented to by Congress, provides that any amendments shall become effective thirty days after ratification by both State legislatures and concurrence by the Corps.³⁴² Congress always has the right to modify or repeal a compact, even if not expressly stated in the authorizing federal statute, and regardless of whether the compact required congressional consent.³⁴³

Regional authorities and agencies created pursuant to an interstate compact are not automatically entitled to the individual state-parties' Eleventh Amendment immunity from suit. In *Lake Tahoe Country Estates, Inc. v. Tahoe Regional Planning Agency*,³⁴⁴ the Supreme Court held there is a presumption that agencies created pursuant to the Compact Clause do not qualify for Eleventh Amendment immunity "[u]nless there is good reason to believe that the States structured the new agency to enable it to enjoy the special constitutional protection of the States themselves, and that Congress concurred in that purpose."³⁴⁵ An agency established pursuant to an interstate compact also can waive its sovereign immunity where a "sue and be sued" provision is included within the compact itself and Congress consents to such a compact.³⁴⁶

An Interstate compact involving the District will require some form of congressional consent. Under Article I, Section 8, Clause 17 of the U.S. Constitution Congress has authority "[t]o exercise exclusive Legislation in all Cases whatsoever, over [the] District." Where Congress formally consents to a compact involving the District by enacting federal law, Congress is not only consenting to the compact as a whole, but is also specifically consenting to the District's participation in the compact. For example, the statute providing consent to the creation of the Washington Metropolitan Area Transit Authority states that the "Commissioners of the District of Columbia are authorized and directed to enter into and execute an amendment to the [Washington Metropolitan Area Transit Regulation] Compact substantially as set forth above with the States of Virginia and Maryland and are further authorized and directed to carry out and effectuate the terms and provisions."³⁴⁷ Likewise, when the District sought to enter into the Interstate

Compact for Adult Offender Supervision, Congress enacted legislation granting the District the authority to do so.³⁴⁸

Not all compacts entered into by the District will conclude with formal congressional approval, but, all compacts involving the District require some form of congressional review. Under section 602 of the D.C. Home Rule Act,³⁴⁹ upon passage of any act by the D.C. Council, the Council must transmit a copy of such act to the Speaker of the House of Representatives and the President of the Senate.³⁵⁰ The act shall take effect no less than 30 days after transmittal, only if during such 30-day period both Houses of Congress do not adopt a concurring resolution disapproving of the District's act.³⁵¹ For example, when the District entered into the Woodrow Wilson Bridge and Tunnel Compact with Virginia and Maryland, Congress did not pass any statute. Instead, the Mayor transmitted the compact to Congress for its review, after which the compact became effective.³⁵²

A non-exhaustive list of issues to be addressed in considering replacing WASA with a regional authority formed pursuant to an interstate compact follows. Section 2 includes a brief overview of three regional authorities currently in operation that may serve as models for a regional authority for waste and sewer service in the metropolitan Washington area.

CONSTITUTIONAL MATTERS

- ❖ Will formal congressional consent, *e.g.*, enactment of federal law, be necessary?
- ❖ Will the authority be granted state Eleventh amendment immunity?

GOVERNANCE

- ❖ What type of authority will be established to govern the new agency?
- ❖ How many members will sit on the governing board or commission?
- ❖ How will the members be appointed?
- ❖ How will the members be allocated from each of the three jurisdictions?
- ❖ How will meetings and voting be conducted?
- ❖ Will local government officials be permitted to serve on the board, as found with the Metropolitan Transit Authority, or will no government officials be permitted to serve as found with Metropolitan Washington Airport Authority?
- ❖ Will all board members be required to reside in the greater Washington metropolitan area?
- ❖ Will directors be compensated?

GENERAL POWERS

- ❖ Will the new authority have the power to sue and be sued? Will this have any effect upon the states' Eleventh Amendment immunity?
- ❖ Will the new authority be able to enter into contracts?
- ❖ Will the new authority be able to own real and personal property in its own name?
- ❖ Will the new authority have eminent domain powers and powers of condemnation?
- ❖ Will the new authority have power to establish service fees and other charges?

FUNDING

- ❖ Will the new authority be funded by service fee, government subsidization, or both?
- ❖ Will the new authority have any taxing authority?
- ❖ Will the new authority have authority to assume debt through bonds or other debentures?

PERSONNEL

- ❖ Will there be any issues of former federal employees being transferred to a non-federal entity (as arose with the transfer of authority to the MWAA)?³⁵³
- ❖ Also consider issues such as labor unions, bargaining and employee salaries.

3. MODEL INTERSTATE COMPACTS CURRENTLY IN OPERATION

Below is a brief overview of three regional authorities established pursuant to an interstate compact, which are currently in operation. What is noted are elements of the compacts that should be considered in any discussion to replace the WASA with a new regional authority. However, the list is not exhaustive and there may be other issues of importance unique to replacing WASA which did not arise with these regional authorities. The public laws referred to below are not the most current pieces of legislation for the individual authorities, but rather they are the implementing acts which created the authorities.

A. WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

The Washington Metropolitan Area Transit Authority was created by an amendment to the Washington Metropolitan Area Transit Regulation Compact,³⁵⁴ by adding thereto title III, entitled the Washington Metropolitan Area Transit Authority Compact ("WMATA Compact").³⁵⁵

PURPOSE

The Washington Metropolitan Area Transit Authority (“Authority”) was created

(1) to plan, develop, finance and cause to be operated improved transit facilities . . . as part of a balanced regional system of transportation . . . , (2) to coordinate the operation of the public and privately owned or controlled transit facilities, to the fullest extent practicable, into a unified regional transit system . . . , and (3) to serve such other regional purposes and to perform such other regional functions as the signatories may authorize by appropriate legislation.³⁵⁶

GOVERNANCE

The statute details how the Authority will be governed, including board membership, selection of directors, director compensation, rules for meetings and board actions, and appointment of officers.³⁵⁷ Currently, there are five directors, two each from the District and Virginia and one from Maryland, and five alternate directors (same composition). The board members are selected by local government through the following sub-regional agencies: Northern Virginia Transportation Commission, the District Commissioners, and the Washington Suburban Transit Commission.³⁵⁸

GENERAL POWERS

The Authority’s powers include the power to sue and be sued; acquire and sell real and personal property; enter into and perform contracts; establish a personnel system; set fare rates; hold public hearings; and conduct investigations relating to any matter affecting transportation within the Washington Metropolitan Area Transit Zone.³⁵⁹ Although the Authority can be sued, the statute specifies that nothing contained “in this Title shall be construed as a waiver by the District, Maryland, Virginia and the counties and cities within the Zone of any immunity from suit.”³⁶⁰

FINANCING

To the extent possible, the Authority will be funded by fares and charges for service. When that is insufficient to meet expenses, all remaining costs are to be equitably shared by state, local, and federal government.³⁶¹ The Authority has the power to borrow money from local governments or any lending institution³⁶² and may issue bonds or “other evidences of indebtedness.”³⁶³

B. METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

The Metropolitan Washington Airports Authority (“MWAA”) was established pursuant to an interstate compact between Virginia and the District.³⁶⁴

PURPOSE

The MWAA compact authorizes the transfer of operating responsibility over Washington Reagan National Airport and Washington Dulles International Airport from the federal government to an independent airport authority.³⁶⁵ The MWAA is a political subdivision

constituted solely to operate and improve the two airports as primary airports serving the metropolitan Washington area. It is independent of Virginia, its local governments, the District and the federal government.³⁶⁶ Included in the compact is a long-term lease agreement between the MWAA and the federal government for the Metropolitan Washington Airports.³⁶⁷

GOVERNANCE

The statute details how the MWAA will be governed, including board membership, terms of service, procedures for voting and meetings, appointment of the chairman, and creation of an oversight Board of Review.³⁶⁸ Currently the board of directors consists of one chairman, one vice-chairman, and eleven directors — five appointed by the Governor of Virginia, three appointed by the Mayor of the District, two appointed by the Governor of Maryland, and one member appointed by the President with the advice and consent of the Senate.³⁶⁹ Directors are prohibited from holding elective or appointive political office and they must reside within the Washington Metropolitan area.³⁷⁰ Additionally, there is an Airports Advisory Committee made up of local residents, appointed by the Governor of Virginia, Mayor of the District, and Governor of Maryland.³⁷¹

GENERAL POWERS

MWAA is authorized to “acquire, maintain, improve, operate, protect and promote” the two Washington area airports for public purposes.³⁷² The MWAA has authority to acquire real and personal property, and exercise such powers of eminent domain within Virginia as are conferred upon it by the Commonwealth of Virginia. The MWAA has authority to levy fees or other charges. It may enter into agreements with employee organizations.³⁷³ The statute does not explicitly grant the MWAA the authority to sue and be sued; however, the statute provides that the MWAA shall assume all litigation relating to all rights, liabilities, and obligations of the Metropolitan Washington Airports.³⁷⁴

FINANCING

According to its website, the MWAA is a “self-supporting” entity, funded through aircraft landing fees and concession revenues; it is not taxpayer-funded.³⁷⁵ The MWAA has authority to issue bonds for “public purposes,” *e.g.*, to pay for all or any part of airport improvements, construction and rehabilitation, or the acquisition of real and personal property.³⁷⁶

C. PORT AUTHORITY OF NEW YORK AND NEW JERSEY

The Port Authority of New York and New Jersey (the “Port Authority”) was created pursuant to an interstate compact between the States of New York and New Jersey.³⁷⁷

PURPOSE

The Port Authority was created for the “comprehensive development of the port of New York,” including development of terminals, transportation and other facilities of commerce.³⁷⁸

GOVERNANCE

The statute details how the Port Authority will be governed, including membership on the commission, selection of commissioners, appointment of chairmen, officers and employees, and procedures for meetings and voting.³⁷⁹ Currently there are eleven commissioners, including one chairman. Six are appointed by the state of New York and five are appointed by New Jersey. The board has authority to appoint an executive director. The Governors of New York and New Jersey can veto actions by commissioners from their own state.³⁸⁰

GENERAL POWERS

The Port Authority has full power and authority to purchase, construct, lease and/or operate any terminal or transportation facility within the geographic district delineated as part of the Port Authority. The Port Authority has the power to own and operate real or personal property, as well as the power to borrow money and issue bonds. In an amendment to the compact, the Port Authority consented to be sued.³⁸¹

FUNDING

According to the original legislation, until revenues from Port Authority operations (i.e., fees charged for use of the port and other modes of transportation) are adequate to meet all Authority expenditures, New York and New Jersey shall provide, in equal amounts, for salaries and other administrative expenditures.³⁸² Currently, the Port Authority is self-supporting, relying almost entirely on revenues generated by facility users, tolls, fees, and rents. The Authority receives no tax revenues from any state or local government and has no taxing authority.³⁸³

APPENDIX C

SURVEY OF STATE REGULATION OF DRINKING WATER

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
Alaska	<p>Department of Environmental Conservation (DEC)- Division of Water</p> <p>DEC also includes Division of Air Quality, Division of Environmental Health, Division of Information and Administrative Services and Division of Spill Prevention and Response</p>	<p>DEC is guided by the following mission: It is the policy of the state to conserve, improve, and protect its natural resources and environment and control water, land, and air pollution, in order to enhance the health, safety, and welfare of the people of the state and their overall economic and social well being.</p> <p>The Division of Water's mission is to improve and protect water quality. In keeping with this mission, the division:</p> <ul style="list-style-type: none"> • Establishes standards for water cleanliness; • Regulates discharges to waters and wetlands; • Provides financial assistance for water and wastewater facility construction, and waterbody assessment and remediation; • Trains, certifies and assists water and wastewater system operators; and • Monitors and reports on water quality.
Arizona	<p>Department of Environmental Quality (ADEQ) / Water Quality Division Water Department of Water Resources</p> <p>The ADEQ also oversees air quality, tank programs and waste programs.</p> <p>There is also a Department of Water Resources that works to secure long term dependable water resources for the state.</p>	<p>The mission of the Water Quality Division is to protect and enhance public health and the environment by ensuring safe drinking water and reducing the impact of pollutants discharged to surface and groundwater.</p> <p>The Water Quality Division's core responsibilities include:</p> <ul style="list-style-type: none"> • Ensuring that Arizona's public water systems deliver safe drinking water. • Managing the quality of water resources through partnerships within the natural boundaries of the state's watersheds. • Regulating the discharge and treatment of wastewater. • Monitoring and assessing the quality of surface and groundwater throughout the state.

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<ul style="list-style-type: none"> • Identifying water pollution problems and establishing standards to address them. • Issuing permits to protect Arizona waters from point sources of pollution. • Investigating complaints and violations of Arizona's water quality laws, rules and permits.
Arkansas	<p>Department of Environmental Quality- Water Division</p> <p>ADEQ also includes Divisions for Air, Environmental Preservation, Hazardous Waste, Mining, Regulated Storage Tanks and Solid Waste Management.</p>	
Alabama	<p>Department of Environmental Management- Water Division</p> <p>DEM also includes an Office of Planning and Public Affairs, Permits and Services Division, Air Division, Land Division and Field Operations</p>	
California	<p>Department of Water Resources/Division of Environmental Services/Office of Water Quality</p>	<p>Mission of Department of Water Resources: To manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments</p> <p>The Division of Environmental Services coordinates the increasingly complex environmental mitigation, documentation, monitoring and reporting responsibilities needed to operate and complete the State Water Project and support the implementation of the CALFED Bay-Delta Program.</p> <p>The mission of the Office of Water Quality is to meet the overall water quality needs of the Department, and to provide a central focal point for the collection and dissemination of water quality information for the Department and stakeholders. This is accomplished through comprehensive water quality monitoring, analysis, and assessment; applied research; implementation of a rigorous quality assurance and control program; and, data management and dissemination. While our geographic focus is the Sacramento-San Joaquin Delta and the State Water Project, the Office also provides support to other departmental organizations and stakeholders throughout the State in meeting their water quality-related needs. This includes providing water quality data and information in support of such activities as long-range planning, regulatory compliance, project operations, scientific research and policy development.</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<p>There are three main areas of focus for the OWQ: 1) Municipal Water Quality (Drinking Water Quality), 2) Environmental Water Quality, and 3) Operational Water Quality (SWP). The Bryce Chemical Laboratory also supports all three of these focus areas through maintaining the highest level of analytical capability.</p> <p>Municipal Water Quality Objective: to determine and examine the sources of constituents that effect drinking water quality of the Sacramento-San Joaquin Delta, and to provide information necessary for planning Delta water quality improvements. This objective is met through implementation of the Municipal Water Quality Investigations Program.</p> <p>Environmental Water Quality Objective: to document the environmental water quality conditions effected by operation of the SWP and the federal Central Valley Project through the monitoring and assessment of various physical, chemical and biological constituents throughout the Delta. This objective is met through implementation of the Bay-Delta Environmental Monitoring Program and the Interagency Ecological Program and the various water quality programs carried out through the department's district offices.</p> <p>Operational Water Quality Objective: to provide the water quality information necessary for operational needs of both the SWP and the State Water Contractors, and to identify opportunities to provide the best water quality possible for our customers. This objective is met through the SWP Water Quality Program in the Division of Operations and Maintenance.</p>
Colorado	<p>Department of Public Health and Environment/Water Quality Control Division</p> <p>The Department of Public Health and Environment also includes divisions dealing with Air pollution, consumer protection, hazardous materials, sustainability, emergency medical services, laboratory services, disease control, prevention services.</p> <p>The Colorado Department of Natural Resources also includes a Division of Water Resources that handles water distribution.</p>	<p>Water Quality Control Division Mission Statement:</p> <p>Ensure quality water for public health and the environment.</p> <p>Water Quality Control Division Goals:</p> <ul style="list-style-type: none"> • Implement the federal and state laws, regulations and policies governing water quality and drinking water in a timely, efficient and fair manner; • Regulate water quality and public water systems through an open and collaborative public process; • Ensure that every public water system consistently provides safe drinking water and that every permitted discharger is in compliance with permit conditions;

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<ul style="list-style-type: none"> • Assure attainment of water quality classifications and standards using permits to control point sources and encouraging voluntary control of nonpoint sources of pollution; • Provide technical, financial and compliance assistance to drinking water and wastewater treatment systems and water quality improvement projects; • Establish priorities that reflect positive public health and environmental outcomes and generate measurable results; • Promote a watershed approach to water quality management which coordinates division activities within geographic areas; • Evaluate the water quality status of water bodies; • Provide quality information to the citizens of Colorado regarding the safety of their drinking water and the quality of Colorado's waters; • Maintain a skilled, team-oriented, professional staff in an empowering and satisfying work environment; • Support the Water Quality Control Commission, Board of Health and Water and Wastewater Facility Operator Certification Board in the fulfillment of their missions.
Connecticut	Department of Public Health/Drinking Water Division	<p>The engineers, planners, environmental analysts, administrative and office support staff of the Drinking Water Division are dedicated to assuring the quality and adequacy of our State's public drinking water. This is accomplished by providing technical assistance, education and regulatory enforcement relative to both state laws and provisions of the Federal Safe Drinking Water Act. The DWD regulates over 4000 entities, which provide drinking water to almost every citizen of Connecticut. The DWD maintains a continued commitment to drinking water treatment and monitoring, protection of sources of drinking water, and consumer education, assuring the high standard of drinking water Connecticut's citizens have come to expect and enjoy.</p>
Delaware	Department of Natural Resources and Environmental Control	
Florida	Department of Environmental Protection	

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
Georgia	Department of Natural Resources-Environmental Protection Division	<p>Environmental Protection Division (www.dnr.state.ga.us/environ), with seven branches and seven regional offices, protects Georgia's air, land, and water through the authority of state statutes and major parts of five federal environmental statutes. These laws regulate public and private facilities having to do with water quality, air quality, hazardous waste, water supply, solid waste management, surface mining and other areas. EPD issues and enforces all state permits in these areas.</p>
Hawaii	Department of Health- Safe Drinking Water Branch	<p>The Department of Health is responsible for three primary areas of water quality. The Clean Water Branch administers and enforces statewide water pollution laws and rules. The Safe Drinking Water Branch administers federal and state safe drinking water regulations and the Wastewater Branch implements the construction of county wastewater facilities.</p>
Idaho	<p>Department of Environmental Quality- Water Quality Division</p> <p>Within the department are seven divisions—<i>Air Quality, Water Quality, Waste Management and Remediation, Technical Services, INEEL Oversight, Administrative Services, and Planning and Special Projects.</i></p>	<p>DEQ's Water Quality Division is responsible for assuring that the state's surface, ground and drinking water resources meet state water quality standards. Areas of emphasis include: monitoring surface water quality and collecting data, developing and coordinating implementation of water quality improvement plans, managing the state's watersheds, issuing permits, protecting the quality of public drinking water by working with public health districts, and providing grants and loans.</p>
Illinois	Illinois Environmental Agency, Bureau of Water	<p>The mission of the Bureau of Water is to:</p> <ul style="list-style-type: none"> • Ensure that Illinois' rivers, streams and lakes will support all uses for which they are designated including protection of aquatic life, recreation and drinking water supplies, • Ensure that every Illinois Public Water system will provide water that is consistently safe to drink, • Protect Illinois' groundwater resource for designated drinking water and other beneficial uses

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
Indiana	Department of Environmental Management, Office of Water Quality, Drinking Water Branch	The Drinking Water Branch includes two primary program areas: the Public Water Supply Supervision Program, and the Ground Water Protection Program. Although seemingly distinct in nature, both programs possess an overall mission of protecting the quality of drinking water supplies. The Public Water Supply Program focuses on ensuring the quality of water provided for drinking purposes through public water supply systems, while the Ground Water Protection Program focuses on protecting the resource, that is, groundwater, from which a large percentage of drinking water is derived. The operation of the branch is accomplished through four sections:
Iowa	Department of Natural Resources- Water Quality Bureau The DNR contains a number of branches, including Air Quality, Animal Feeding, Contaminated Sites, Energy, Fish and Game, Hunting, Forestry, Spill Resources, State Parks and Preserves, Waste Management and Wildlife.	Protecting the safety of Iowans and the quality of Iowa's waters are the two main goals of DNR's water quality bureau. The bureau sets standards for the quality of our surface waters; issues permits to limit pollution; provides technical assistance and training to communities, industries and homeowners; and even provides funding for projects that will enhance water quality.
Kansas	Division of Environment- Bureau of Water	The Bureau of Water administers programs related to public water supplies, wastewater treatment systems, the disposal of sewage, and nonpoint sources of pollution. Programs are designed to provide safe drinking water, prevent water pollution, and assure compliance with state and federal laws and regulations such as the Clean Water Act and Safe Drinking Water Act.
Kentucky	Department for Environmental Protection, Division of Water-Drinking Water Branch	The mission of the Drinking Water Branch (DWB) is to protect the health of the people in Kentucky by assuring safe and reliable drinking water from public water systems. The DWB ensures the provision of potable water. Potable water is defined as finished water, after treatment, that is safe and satisfactory for drinking and cooking The Division of Water is charged with the responsibility for managing and protecting the state's waters, both on the surface in lakes, streams and rivers as well as groundwater beneath the surface of the land in the state
Louisiana	Department of Environmental Quality	The Louisiana Water Quality Management Plan (WQMP or The Plan) is the primary document associated with water quality management, pollution control, and planning activities carried out by the State in its effort to implement the provisions of federal law under the Clean Water Act (CWA), as amended by the Water Quality Act of 1987. The Plan was developed in accordance with Sections 205(j), 208 and 303(e) of the CWA. The main objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The Louisiana

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
Maine	Department of Health and Human Services	<p>Department of Environmental Quality (LDEQ) is authorized to develop the WQMP and to carry out such activities according to the Louisiana Water Quality Regulations (LA R.C.33:IX), developed under the authority and mandate of the Louisiana Environmental Quality Act (LA R.S.30:2001 and 30:2071). The WQMP goal is that the waters of the State meet established water quality standards, and thereby maintain all designated uses for each waterbody.</p> <p>The WQMP identifies water quality problems, details the State's objectives and strategies for their resolution, and outlines the institutional framework necessary for the effective implementation of the proposed strategies. In order to meet these objectives, the WQMP must contain the detail required for providing the necessary analyses and information for management decisions, while remaining flexible enough to meet changing requirements. The Plan is, therefore, a management tool containing a wide range of information that is integrated in an assessment of both the sources and impacts of water pollution, as well as the possible management alternatives available for resolution of the problems.</p> <p>The State of Maine Drinking Water Program (DWP) is responsible for enforcing the federal http://www.state.me.us/dhs/eng/water/Forms/LISTofRuleChanges4-13-04.pdf Safe Drinking Water Act in Maine and has primary responsibility for administering the State's Rules Relating to Drinking Water. The DWP receives funding from both the <i>United States Environmental Protection Agency</i> and the regulated community. Public water suppliers pay an annual fee which was developed by the DWP, <i>Maine Rural Water Association</i> (MRWA), and the <i>Maine Water Utilities Association</i> (MWUA). This cooperative funding effort was developed to allow Maine companies to be regulated by Maine regulators. The DWP regulates over 2,200 public water systems in Maine.</p>
Maryland	Department of the Environment	<p>Among MDE's top priorities are restoring and maintaining the quality of ground and surface waters. This requires the enforcement of standards and controls on point and non-point sources of pollution.</p> <p>MDE issues <i>permits</i>, and inspects and maintains compliance at facilities concerning industrial and municipal wastewater discharges, <i>coal and surface mining</i>, agriculture, and <i>construction involving major water and sewerage facilities, dam safety, sediment control, stormwater management, wetlands and waterways</i>.</p> <p>Under federal and state laws and regulations, MDE is also responsible for <i>ensuring that all public drinking water systems throughout Maryland meet strict drinking water quality standards</i>. Approximately 4.3 million Marylanders are served by public drinking water systems. Private wells serve approximately 900,000 Marylanders. Individual wells, which serve one lot or home, are regulated by local governments through delegation from MDE.</p> <p>Maryland's <i>water quality standards</i> provide that surface waters should be protected for basic water uses such as water contact recreation, fishing, support of balanced and diverse populations of aquatic plants, animals and wildlife, and use as an agricultural and industrial water supply.</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<p>MDE administers the <i>State Revolving Loan Fund (SRF Fund)</i> that provides a source of low interest financing to encourage private landowners, and water system owners to implement capital improvements that will protect or improve the quality of Maryland's water resources and provide safe drinking water. MDE also administers the <i>Bay Restoration Fund</i> that would further reduce nitrogen and phosphorus flowing into the Chesapeake Bay from wastewater treatment plants.</p> <p>MDE puts a strong emphasis on monitoring the quality of <i>shellfish harvesting</i> waters, and testing edible fish tissue to certify that fish are safe for human consumption. Certain fish in contaminated waters can accumulate high enough levels of toxic substances that, when consumed frequently over a lifetime, may increase the consumers' risk of adverse health effects. In these cases, MDE issues <i>fish consumption advisories</i> to limit consumption of certain fish species.</p> <p>Ensuring that Maryland's valuable <i>wetland resources</i> are protected, achieving the State's goal to attain no-net overall loss in wetland acreage and function, and striving for a net resource gain in wetlands over present conditions are very important environmental goals for Maryland. Wetlands play an important role in the preservation and protection of the Chesapeake Bay, the Coastal Bays, and other waters of the State.</p>
Massachusetts	Department of Environmental Protection- Drinking Water Program	<p>The Drinking Water Program ensures that the drinking water delivered by public water systems in Massachusetts is fit and pure according to national and state standards. As US EPA'S Primary Agent for the federal Safe Drinking Water Act in Massachusetts, the Program regulates water quality monitoring, new source approvals, water supply treatment, distribution protection, and reporting of water quality data. It also coordinates with DEP's Office of Watershed Management, the Water Resources Commission, and DEM's Division of Water Resources in regulating quantity of water used for drinking water supplies and in promoting water conservation. The Program maintains an active community technical assistance program to assist public water suppliers, Boards of Health, and other local groups to develop drinking water source protection plans, write local water supply bylaws, and comply with state and federal water supply regulations. Other Program activities include approval of new water supply technologies, regulation of water vendors, source approval for bottled water (bottling regulated by MA Department of Public Health), and public education on drinking water issues.</p> <p>The Drinking Water Program administers and enforces:</p> <p>The Safe Drinking Water Act of 1974 (42 U.S.C. 300f et seq.) as amended in 1986, and associated federal regulations (40 CFR 141-144). Massachusetts General Laws Chapter 111, Sections 159 and 160, and associated state regulations at 310 CMR 21.00-24.00, 27.00 and 28.00. The Water Management Act, MGL C. 21G, and associated regulations at 310 CMR 36.00 (In coordination with MA DEP/BRP/Division of Watershed Management).</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
Michigan	Department of Environmental Quality, Water Bureau	The Water Bureau protects and enhances the quality of the state's drinking water, surface water and groundwaters for the benefit of current and future generations. Within the Bureau, the Drinking Water Protection Program regulates public water supplies to meet state and federal drinking water standards and regulates construction, operation and maintenance of public water supplies.
Minnesota	Department of Natural Resources	
Mississippi	Department of Health	Although the <i>Mississippi State Department of Health</i> has primacy for drinking water, they have contracted with the Department of Environmental Quality to provide administrative assistance.
Missouri	Department of Natural Resources, Water Protection and Soil Conservation Division, Public Drinking Water Branch	
Montana	Department of Environmental Quality, Public Water Supply Section	<p>The Public Water Supply Section regulates public drinking water and wastewater treatment facilities in Montana. The Section also licenses operators of certain public drinking water and wastewater treatment facilities.</p> <p>This program is responsible for assuring that the public health is maintained through a safe and adequate supply of drinking water. This function is achieved by technical review, licensing, certifications, compliance monitoring, training and technical assistance.</p> <p>Approval from the department is also required to construct, alter or extend public water or sewer systems serving 15 or more families or 25 or more persons daily for any 60 or more days in a calendar year. Operators in charge of public water or wastewater treatment systems must be licensed by the DEQ.</p> <p>The Montana Legislature established the Drinking Water State Revolving Fund (DWSRF) Loan Program for water pollution control projects. The program provides at or below market interest rate loans to eligible Montana entities. The Department of Environmental Quality (DEQ) is the administering agency and assures that the technical, financial, and programmatic requirements of the program are met. The Department of Natural Resources and Conservation (DNRC) issues the State's general obligation bonds and makes loans to the project borrowers. Cooperatively, DEQ and DNRC administer the Drinking Water State Revolving Fund Loan Program.</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
Nebraska	Health and Human Services, Public Water Supply Program	
Nevada	Nevada State Health Division, Safe Drinking Water Program	<p>Safe drinking water is vital to the public health, welfare, and economy of Nevada. The moment a person opens a drinking water tap in Nevada, represents perhaps the most intimate connection between public trust and the government's duty to protect public health. Unlike many other day-to-day government activities, drinking water regulation has a direct and immediate effect on the well-being of every citizen. Reducing outbreaks of waterborne disease from infectious agents and chemical poisoning, and increasing the proportion of people who receive a supply of drinking water that meets standards established by the Environmental Protection Agency (EPA), are two of the Department of Health and Human Services' national health objectives for the year 2000 (Healthy People 2000). Also, as a tourist state, safe drinking water is critical to Nevada's economy. Nevada's Policy for safe drinking water recognizes this responsibility.</p>
New Hampshire	Department of Environmental Services, Water Division	<p>Public water supplies are protected by overseeing the operation of about 125 municipal systems, 500 residential systems (condominiums, apartment buildings, and mobile home parks), and over 1,100 systems that provide water for restaurants, motels, and campgrounds. Consistent with criteria of the federal Safe Drinking Water Act, the Water Division conducts engineering reviews of all proposals to develop or expand public water supplies. Additionally, it conducts regular water quality sampling, water facility inspections, facility operator licensing and educational programs, and technical assistance. It also administers a source water protection program that includes a grant program for protecting lands surrounding water supplies.</p>
New Jersey	Department of Environmental Protection, Division of Water Quality	<p>Located under Environmental Regulation in the <i>Department of Environmental Protection</i>, the Division of Water Quality has primary responsibility for protecting New Jersey's surface and ground waters from pollution caused by improperly treated wastewater and its residuals.</p> <p>Wastewater is essentially "used" water. In the home, it comes from various sources including sinks, dishwashers, bathtubs, toilets and washing machines. Wastewater is also generated by commercial and industrial users where human waste may be mixed with a wide variety of wastes emanating from cleaning, processing, or manufacturing operations. When wastewater is improperly discharged into a surface waterbody it can deplete oxygen, stimulate undesirable growths of plants (algae), and introduce disease producing organisms and toxic chemicals into the environment.</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<p>To protect the state's waters, the Division of Water Quality: implements the <i>New Jersey Pollutant Discharge Elimination System (NJPDES Program)</i>, administers <i>financial assistance programs for wastewater treatment facilities</i>, and administers the <i>Treatment Works Approval, Capacity Assurance, and Sewer Ban Programs</i>.</p> <p>All of these programs play a role in keeping New Jersey's water clean and safe for the public.</p>
New Mexico	Environment Department/Drinking Water Bureau	
New York	Department of Health	<p>Assuring the delivery of safe drinking water is critical to the public health and well being of all New Yorkers. The Department of Health oversees the delivery of drinking water to ensure that it is suitable for people to drink. To assure the safety of drinking water in New York, the Department of Health in cooperation with its partners, the county health departments, regulates the operation, design and quality of public water supplies and commercial bottled water suppliers; assures water sources are adequately protected; provides financial assistance to public water suppliers, reviews and approves plans for proposed realty subdivisions, and sets standards for constructing individual water supplies and individual wastewater systems (septic systems).</p> <p>The United States Environmental Protection Agency (EPA) established the public water system supervision program under the authority of the 1974 Safe Drinking Water Act (SDWA). Under the SDWA, EPA sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. EPA also regulates how often public water systems monitor their water for contaminants and report the monitoring results to the states or EPA. Generally, the larger the population served by a water system, the more frequent the monitoring and reporting requirements. Public water systems are required to notify the consumers when they have violated these regulations. You can find out more about national drinking water protection programs at web sites administered by the <i>EPA</i>.</p>
North Carolina	Department of Environment and Natural Resources/Division of Water Quality	<p>The North Carolina Division of Water Quality (DWQ) in the Department of Environment and Natural Resources is the agency responsible for statewide regulatory programs in groundwater and surface water protection.</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<p>DWQ's mission is to preserve, protect and enhance North Carolina's water and groundwater resources through quality monitoring programs, efficient permitting, responsible management, fair and effective enforcement and excellence in public service.</p> <p>The agency, with central offices in Raleigh and seven regional offices located across the state, issues pollution control permits, monitors permit compliance, evaluates environmental quality and carries out enforcement actions for violations of environmental regulations.</p> <p>The division, composed of five sections (<i>Water Quality</i>; <i>Groundwater</i>; <i>Construction Grants & Loans</i>; <i>Laboratory</i>; and the <i>Wetlands Restoration Program</i>) administers the policies and rules established by the state's <i>Environmental Management Commission (EMC)</i>. These policies and rules are designed to support the division in its resource protection, management and regulatory efforts.</p>
North Dakota	Department of Health/Division of Water Quality	
Ohio	Ohio Environmental Protection Agency	
Oklahoma	Water Resources Board	<p>The WRB is designed to manage and protect the waters of the State and plan for Oklahoma's long range water needs in a responsive, innovative and professional manner to ensure that all Oklahomans have adequate quantities of good quality water. The Board also promulgates Water Quality Standards implementation rules. Implementation rules provide a bridge between Water Quality Standards and water quality management by providing consistent application of numeric and narrative criteria. As in development of the Water Quality Standards themselves, an extensive public participation process is utilized to ensure that the state's water quality management process strikes an appropriate balance between environmental protection and sound public policy.</p>
Oregon	Department of Environmental Quality/Water Quality Program	<p>The Department of Environmental Quality (DEQ) is the state agency responsible for protecting Oregon's surface waters and groundwater to keep these waters safe for a wide range of uses, such as drinking water, recreation, fish habitat, aquatic life, and irrigation. DEQ's Water Quality Program accomplishes this in many ways by:</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<ul style="list-style-type: none"> • Developing water quality standards for Oregon's waters. • Monitoring water quality with regular sampling of more than 50 rivers and streams in the 18 designated river basins found in Oregon. • Regulating over 1000 sewage treatment systems and approximately 200 industrial dischargers through individual permits that set limits on pollutants discharged. In addition, approximately 1000 facilities have general permits that limit discharges and over 1900 facilities are covered by storm water general permits. • Regulating injection systems through a registration process and, when necessary, by issuing permits to protect groundwater. • Inspecting septic system installations and working with local agencies to streamline this process. • Helping public drinking water systems implement plans to protect drinking water. • Offering low cost loans to public agencies and grants to different entities to help fund improvements to water quality. • Controlling nonpoint sources of pollution (diffuse or unconfined sources of wastes or contaminants that are conveyed to surface water or groundwater) by maintaining a plan that describes how the state intends to manage nonpoint sources.
Pennsylvania	Department of Environmental Protection/Bureau of Water Supply and Wastewater Management	
Rhode Island	Department of Health/Division of Environmental Health/Office of Drinking Water Quality Also handles Emergency Response, Environmental Risk Assessment , Food Protection Occupational and Radiological Health	Protects the public health by assuring that public drinking water supplies comply with the standards of the Safe Drinking Water Act.
South Carolina	Department of Health and Environmental Control /Drinking Water Program	Safe public drinking water in South Carolina is accomplished through a "multiple barrier" approach. Tools utilized in this approach include source water protection, certified water treatment plant operators, routine sanitary surveys, monitoring, treatment design and plan review. A cooperative partnership of the SC DHEC Drinking Water Program staff, the US EPA and drinking water professionals throughout the State helps to ensure safe, high quality drinking water in South Carolina

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
South Dakota	Department of Environment and Natural Resources/Drinking Water Program and Bureau of Water	<p>The state of South Dakota began primary enforcement of the federal Safe Drinking Water Act (SDWA) in 1983. The South Dakota Drinking Water Program, part of DENR, develops and enforces the <i>South Dakota Drinking Water Regulations</i> that apply to public water systems in the state. Approximately 690 public water systems (PWS) currently exist in South Dakota. The Drinking Water Program is located in Pierre and has office personnel located in Watertown, Vermillion, and Rapid City. To see a list of <i>drinking water contaminants</i> that the Drinking Water Program regulates visit our Drinking Water Standards web page.</p> <p>Areas of expertise in the Drinking Water Program include:</p> <ul style="list-style-type: none"> <i>SDWA Laboratory Certification</i> <i>Water and Wastewater Operator Certification</i> <i>Municipal Swimming Pool and Public Beaches Regulation</i> <i>New Well Sampling Program</i> <i>Plans and Specification Review for Public Water Systems and Pools</i> <i>New Water System Approvals</i> <i>Capacity Development</i> <i>Bottled Water Regulation</i> <i>General Private Well Sampling</i> <i>Annual Water Quality Reports (Consumer Confidence Reports)</i> <i>Disinfection By-Products</i> <i>Public Notification</i> <i>Drinking Water Security</i>
Tennessee	Department of Environment & Conservation/Division of Water Supply	<p>The Division of Water Supply is the administrative agent for carrying out the provisions of the <i>Tennessee Safe Drinking Water Act</i>, which regulates the quality and quantity of drinking water in the state; the <i>Safe Dams Act</i>, which regulates the construction of non-federal dams; the <i>Water Resources Act</i>; and the <i>Water Withdrawal Registration Act</i>, which requires the registration of water withdrawal; and the Water Wells Act, which regulates the licensing of well drillers and pump setters. The <i>Division's Ground Water Management Section</i> has been assigned the responsibility for ground water protection strategy development, well-head protection, underground injection of waste, and some pesticide management activity under the Water Quality Control Act. The <i>Environmental Permitting Handbook</i> has more information on the permitting activities of this Division.</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<p>The Division is charged with general supervision over construction and operation of public water supplies including design, construction, and operation of public water works systems. Engineering reports and plan documents are submitted to the Division for review and written approval obtained before construction is started. The Division is authorized to adopt and enforce rules and regulations governing the location, design, construction, continuous operation and maintenance of these facilities. It also conducts an enforcement program which requires water suppliers to meet requirements of the Safe Drinking Water Act with respect to water quality and information reporting.</p> <p>The Division is responsible for:</p> <ul style="list-style-type: none"> The certification program for laboratories and water suppliers desiring to conduct microbiological, organic, inorganic, and turbidity analyses of drinking water samples; Conducting sanitary surveys of water supply systems for compliance and providing technical assistance to public water systems; Conducting examinations of water supply system operators and certifying compliance with performance standards; Conducting training courses for water supply operators for the purpose of assisting them in the understanding of changing regulations and technologies; and Maintaining an accurate database of water supply information
Texas	Texas Commission on Environmental Quality	<p>The TCEQ administers the supervision program for public drinking water systems and has primary responsibility for the public water system (PWS) aspects of the federal Safe Drinking Water Act. The public Drinking Water Section executes program activities with a central office staff located in Austin, and with the cooperation of the sixteen regional offices administered by the Office of Compliance and Enforcement..</p>
Utah	<p>Department of Environmental Quality, Division of Drinking Water and Division of Water Quality</p> <p>Also handles Air Quality, Radiation control, Drinking Water, Hazardous Waste, Environmental Response and Remediation, and Water Quality</p>	<p><i>The mission of the Division of Water Quality is to protect, maintain and enhance the quality of Utah's surface and underground waters for appropriate beneficial uses; and to protect the public health through eliminating and preventing water related health hazards which can occur as a result of improper disposal of human, animal or industrial wastes while giving reasonable consideration to the economic impact</i></p>
Vermont	Department of Health and Department of Environmental Conservation	<p>About seven Vermonters in 10 get their drinking water from public water supplies, the purity of which is regulated by state and federal government.</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<p>The federal <i>Environmental Protection Agency</i> sets numerical limits on the maximum allowable concentration of certain chemicals and bacteria in these supplies, and the EPA limits are enforced by the <i>Vermont Department of Environmental Conservation</i>.</p> <p>Private water supplies, which serve the remaining 30 percent of Vermonters, are typically monitored and maintained by their owners, with the Department of Health offering laboratory analyses, guidance and technical advice on treatment options.</p> <p>When a private well is located close to a land-use activity that has the potential to contaminate the well, however, the state has a process, through its environmental regulation of the activity, to protect the well.</p> <p>Setting water-quality standards for this process is part of the work we do at the Health Department. If a chemical does not have a federal limit, the Department of Environmental Conservation consults with us to establish one.</p> <p>Our staff reviews published research on the subject and periodically issues Health Advisories. Together with the federal limits set out by the EPA, these Advisories are listed in a Drinking Water Guidance Document. This material, in turn, is formally incorporated in a Rule promulgated by the Department of Environmental Conservation and titled the “Groundwater Protection Rule and Strategy.”</p> <p>These are the water-quality guidelines that are consulted by state departments that deal with potential groundwater contamination activities such as the handling of hazardous materials, the operation of landfills or the application of pesticides.</p> <p>Any activity that requires a Department of Environmental Conservation permit must comply with the standards set out by this Rule.</p> <p>In practice, if a contaminant is found in a drinking-water well, the level of that contaminant may be compared to the drinking water standard for that contaminant listed in the Rule, and the Rule spells out what choices of action are available for dealing with the problem. Using this process helps ensure that decisions concerning drinking water quality are both safe and consistent.</p> <p>Our <i>Drinking Water Guidance document (pdf)</i> is incorporated in the appendix of the <i>Groundwater Protection Rule and Strategy (pdf)</i>, which is available on the website of the Department of Environmental Conservation’s Water Supply Division. Both documents are updated as current health advisories are amended, or as new health advisories are requested for compounds previously without advisories.</p> <p>These efforts by the State of Vermont to protect and manage groundwater resources are supervised by a Groundwater Coordinating Committee. Two members of the committee are from our Department, one from our Health Protection Division and one from Laboratory Services. We are proud to be making this important contribution to the protection of Vermont’s drinking water.</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
Virginia	Department of Health, Office of Drinking Water	<p>We are committed to protecting public health by ensuring that all people in Virginia have access to an adequate supply of affordable, safe drinking water that meets federal and state drinking water standards.</p> <p>We accomplish this mission by:</p> <ol style="list-style-type: none"> 1. serving as Virginia’s advocate for safe drinking water, 2. monitoring drinking water quality, 3. applying engineering judgment, 4. providing technical assistance and training with respect to all drinking water issues, 5. financing improvements to drinking water systems, seeking funding sources for drinking water projects, and 6. enforcing drinking water regulations and standards of the Virginia Public Water Supply Law and the federal <i>Safe Drinking Water Act</i>.
Washington	Department of Health/Division of Environmental Health/Division of Drinking Water	<p>The <i>mission</i> of the Office of Drinking Water is to protect the health of the people of Washington State by assuring safe and reliable drinking water. <i>A formal agreement with the Environmental Protection Agency</i> gives the state <i>primacy</i> for meeting the requirements of the federal Safe Drinking Water Act. The Office also operates under <i>state statutory authority</i>.</p> <p>The Office has many <i>programs and services</i> to help ensure that public water systems provide safe and reliable drinking water to millions of people in Washington. Our <i>offices and staff</i> are in Olympia and three regions that cover the entire state.</p> <p>We work with many others to provide <i>training</i> for water system operators and managers. We also produce numerous publications for drinking water professionals and the general public. A significant focus in recent years has been <i>emergency response and security</i>.</p> <p>The Office of Drinking Water administers many federal and state <i>rules and regulations</i> that drinking water systems must understand and follow. We collect and provide access to large amounts of water system data.</p>
West Virginia	Department of Health and Human Resources, Office of Environmental Health Services, Environmental Engineering Division	<p>The Environmental Engineering Division is the primary agency designated to carry out the provisions of the federal “Safe Drinking Water Act,” and for assuring that the state’s 2,000 public drinking water supplies provide a reliable supply of safe drinking water to approximately 1,387,000 individuals.</p> <p>Specific activities of this division include:</p>

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
		<ul style="list-style-type: none"> • Project Review and Approval: provides about 500 technical engineering reviews each year for new or renovated systems; • Construction Permits: issues about 275 permits each year to construct new or renovated systems based upon engineering reviews; • Water Fluoridation: oversees the fluoridation process currently conducted by 335 public water systems (87 percent of eligible systems, serving 1,207,000 people) provides technical assistance, operator training and certification and monitoring to assure optimum fluoridation is achieved; • Lead/Copper/Corrosion Control: provides technical assistance to assure systems are testing for lead and copper contamination and that proper treatment is occurring. • Water Vending Machines: issues permits for machine installation, conducts periodic water testing and operation and establishes requirements for monitoring Cross Connection/Plumbing; provides prevention of contamination of drinking water; • Data Management/Compliance: reviews approximately 40,000 monitoring reports for routine testing of more than 200 specific contaminants, and assures that compliance activities are undertaken to correct violations; provides on-site technical assistance and public notices if public health is threatened; • Enforcement: provides for court action when needed to formally resolve violations, including about 80 Boil Water Orders placed on systems each year in cases where waterborne disease is possible; • Water Well Driller training and Certification: provides training, examination and certification of drillers; • Water system Operator Training Testing and Certification: provides training, testing and certification for public water system operators; • Wellhead Protection: provided technical expertise for community wellhead protection programs in area of hydro geology, geology, hydraulic characteristics, modeling and simulation; • Public Wastewater Systems: provides oversight for the location, design, construction and operation of large, municipal wastewater systems, including training for about 500 and certification for about 125 operators each year; • Engineering Services/Sanitary Surveys: provides on-site technical assistance, as requested, for any system, especially small ones that may not have access to such expertise; also provides free, complete sanitary surveys for use in planning for future improvements and in correcting deficiencies.

STATE	DEPARTMENT/DIVISION RESPONSIBLE FOR WATER QUALITY	COMMENTS FROM DEPARTMENT/DIVISION WEB PAGE
Wisconsin	Department of Natural Resources /Bureau of Drinking Water and Groundwater	The Wisconsin Bureau of Drinking Water and Groundwater manages activities that affect the safety, quality and availability of drinking water by preventing contamination of drinking water and groundwater to protect public health.
Wyoming	Department of Environmental Quality/Water Quality Division Also handles air and land quality, hazardous waste, industrial mining	The Water and Waste Advisory Board is created under W.S. 35-11-113 and its duties are described under W.S. 35-11-114. The Board provides recommendations to the Water Quality Division and the Solid and Hazardous Waste Division of the Department of Environmental Quality on proposed rules and comprehensive plans and programs for the management of solid and hazardous wastes, the protection of surface water and groundwater quality and protection of public water supplies. The Board meets approximately quarterly at various locations in the State. The schedule for the Board's meetings can be found on the Department's website.



ENDNOTES

- 1 Maximum Contaminant Level Goals and the National Primary Drinking Water Regulations for Lead and Copper: Final Rule, 56 Fed. Reg. 26,460, 26,470 (June 7, 1991).
- 2 CDC, Morbidity and Mortality Weekly Report, March 30, 2004.
- 3 The Task Force was comprised of representatives of the Mayor's Office, the D.C. Council and agencies charged with water management and public health responsibilities, including, D.C. Department of Health ("DOH"), WASA, the D.C. Aqueduct, D.C. Department of Transportation, and the D.C. Emergency Management Authority.
- 4 Eric Holder and Nicholas Fels are members of Covington & Burling and of the Board of DC Appleaseed and have recused themselves from any participation in this project.
- 5 *In Re District of Columbia Water and Sewer Authority*, No. SDWA-03-2004-0259DS, EPA Region III (June 18, 2004).
- 6 *Amy Harding-Wright, et al. v. District of Columbia Water and Sewer Authority, et al.*, Civil Action 04-00558.
- 7 A complete chronology of events surrounding the disclosure of elevated lead levels in the District is found in Appendix A.
- 8 For administrative purposes, EPA is divided into ten regional offices, each of which oversees the compliance efforts of states assigned to that Region. The District of Columbia is assigned to EPA Region III, which is based in Philadelphia.
- 9 Lead exposure can also occur through the presence of lead in paint, in contaminated soil, with higher levels of lead found in the soil of urban areas where past activities, such as heavy traffic, have emitted lead into the environment, and in food sources, which occurs due to a number of factors, including the atmospheric deposition of air pollution onto crops or cropland, and the past and present use of lead in pesticides.
- 10 For example, in 1991, at the same time EPA directed water utilities to mitigate lead in drinking water, Congress turned its attention to growing concerns about childhood lead poisoning. With the enactment of The Residential Lead-Based Paint Hazard Reduction Act of 1992, the Federal Government recognized that childhood lead poisoning was ubiquitous in America, caused in part by lead-based paint hazards, and was preventable.

As part of the Act, in 1991, the Office of Healthy Homes and Lead Hazard Control was established by HUD in order to bring together health and housing professionals in a concerted effort to eliminate lead-based paint hazards in America's privately-owned and low-income housing. This program provides federal funding for lead paint removal in privately owned houses in over 250 jurisdictions. D.C.'s Department of Housing and Community Development receives the majority of money for lead paint abatement from HUD. Similarly, the District's DOH maintains a Lead Poisoning Prevention Division, funded solely by CDC to address the consequences of lead poisoning.

- 11 SDWA, § 1214(b)(4)(A), 42 U.S.C. § 300g-1(b)(4)(A). The 1986 Amendments to the SDWA established a list of 83 contaminants for which EPA is to develop regulatory controls to reduce exposure to these materials in drinking water. We are addressing lead in this report because of the breakdown of the LCR in the District and the presence of elevated lead levels in the drinking water.
- 12 Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper: Final Rule, 56 Fed. Reg. 26,460, 26,467 (June 7, 1991).
- 13 *Id.* at 26,470.
- 14 The lead service line runs from the water main under the street or public thoroughfare to the residence or structure of the customer.
- 15 *See* Maximum Containment Level Goals and National Primary Drinking Water Regulations for Lead & Copper: Final Rule 56 Fed. Reg. 26,460, 26,463-4 (June 7, 1991).
- 16 *Id.* at 26,466.
- 17 *Public Confidence, Down the Drain: The Federal Role in Ensuring Safe Drinking Water in the District of Columbia: Hearing on Lead in WASA Water Before the House Comm. on Government Reform*, 108th Cong. (March 5, 2004) (testimony of Professor Ellen K. Silbergeld, Ph.D); *see also* Summary of Investigation Reported to the Board of Directors of the District of Columbia Water and Sewer Authority (July 16, 2004) (the "Holder Report") at 25-35.
- 18 The concentration of lead in whole blood has been the most widely used index of total lead exposure. In 1991, EPA concluded that blood lead levels of 10 ug/dL warranted medical intervention. At the same time, research had concluded that the occurrence of a variety of low level adverse health effects made it difficult to identify a clear threshold blood lead level below which there are no risks of adverse health effects in children or adults. Many adverse effects at low exposure levels have no obvious symptoms but can be persistent and cause adverse effects in educational attainment of young children and in other long-term performance. *See* 56 Fed. Reg. at 26,468.

EPA examined studies evaluating the contribution that lead in drinking water makes to blood lead levels in children and adults. For children, the total drinking water contribution to overall lead levels may exceed 50 percent of children's total lead exposure. These analyses found a nonlinear relationship at different water-lead concentrations. For example, the Lacey Study, which measured drinking water exposure of children from 0 to 6 months of age, found a relationship of 0.26 ug/dL blood level per 1 ppb water at water lead levels below 15 ppb. On this basis, water concentrations of 10 ppb would contribute to blood lead levels of 2.6 ug/dL. As discussed more fully below, studies since promulgation of the LCR have recorded adverse health effects at blood lead levels significantly below 10 ug/dL, demonstrating the importance of eliminating all exposure to lead to the maximum degree possible, to reach a goal of zero. EPA concluded, however, that even if there is disagreement regarding the change in blood lead caused by water lead levels, consumption of lead in water will contribute to elevated blood lead levels, thereby increasing risks of adverse health effects for children. *Id.* at 26,469-70.

- 19 Report on the Materials Evaluation and the Initial Inventory of the District of Columbia Water and Sewer Authority Lead Services (September 2003). WASA subsequently identified 27,495 service lines made of unknown materials. WASA has testified that its follow-up investigations suggested the 23,071 estimate is reasonably reliable, and that the likelihood of a dramatic increase in that number is low. Testimony of Jerry Johnson, WASA General Manager, D.C. Council Committee on Public Works and the Environment, April 1, 2004. At the same time, a small number of the original 23,071

known or suspected lead lines have been tested and do not contain lead. The precise number of lead lines, therefore, is uncertain.

- 20 See Carol D. Leonnig and David Nakamura, "Several U.S. Utilities Being Investigated for Lead," *The Washington Post*, October 14, 2004; Carol D. Leonnig and David Nakamura, "Lead Levels in Water Misrepresented Across U.S.," *The Washington Post*, October 5, 2004.
- 21 See United States Environmental Protection Agency, 2003-2008 Strategic Plan, Objective 2.1 (2003).
- 22 United States Environmental Protection Agency website, SDWA National Enforcement Priorities (last visited November 16, 2004), at www.epa.gov/compliance/civil/programs/sdwa/sdwaenfpriority.html.
- 23 David Nakamura, "WASA to Replace 2,800 Lead Pipes Over Next Year," *The Washington Post*, November 13, 2004.
- 24 Since WASA's announcement of its intent to replace 1,800 lead lines, only 14 homeowners have agreed to have the portion of the lead line on their property replaced. *Id.*
- 25 *Id.*
- 26 Other costs of our proposals include sampling costs of \$17-30 per household. With respect to our proposal for WASA to acquire the Aqueduct, WASA and the Virginia wholesale customers already pay the full operating and capital costs of the D.C. Aqueduct. With respect to the District achieving primacy to enforce and implement the LCR. DOH previously estimated the cost at \$250,000 in 1997 dollars; we have not evaluated whether or not that budget is adequate, but even at several multiples of that sum, the benefits of heightened public scrutiny of compliance with the law and enhanced public confidence in public health authorities are important. There also are federal funds available from EPA to cover some of the costs of transition to local control. Finally, we have recommended consideration of a new Department of Environmental Protection, built on the existing corps of the Environmental Health Administration to keep costs down.
- 27 56 Fed. Reg. 26,542.
- 28 D.C. Code § 34-2202.08; § 34-2202.10(k).
- 29 See District of Columbia Water and Sewer Authority, FY 2003-2012 Capital Improvement Program, VIII-4 (2003) (last visited November 16, 2004), at www.dcwasa.com/about/cip/aqueduct.cfm.
- 30 42 U.S.C. § 300f, *et seq.*
- 31 SDWA § 1412, 42 U.S.C. § 300g-1.
- 32 SDWA § 1414, 42 U.S.C. § 300g-3; 40 C.F.R. pt. 142, subpt. B. For purposes of the administration of the Safe Drinking Water Act under a grant of primacy, the District of Columbia is deemed a state. 42 U.S.C. § 300f(13)(B).
- 33 National Primary Drinking Water Regulations: Public Notification Rule, 65 Fed. Reg. 25,981, 25,987 (May 4, 2000) (noting that as of May 4, 2000, EPA retains authority to enforce the Public Water System Supervision ("PWSS") requirements for Wyoming, the District of Columbia, and Indian lands). See also information on EPA's website, (last visited November 16, 2004), at <http://www.epa.gov/dclead/oversight.htm>.
- 34 SDWA, § 1214(b)(4)(A), 42 U.S.C. § 300g-1(b)(4)(A).
- 35 Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper: Final Rule, 56 Fed. Reg. 26,460, 26,467 (June 7, 1991).
- 36 *Id.* at 26,468.
- 37 *Id.*
- 38 *Id.* at 26,469.
- 39 *Id.*

40 *Id.* at 26, 472.

41 *Id.*

42 *Id.* at 26,473.

43 *Id.* at 26,476.

44 40 C.F.R. §§ 141.86(a), (d).

45 40 C.F.R. §§ 141.80(c), 141.81(a)(1). Large systems that could demonstrate that they had optimized corrosion control did not have to follow the LCR’s prescribed steps for installing corrosion control. 56 Fed. Reg. at 26, 492.

46 40 C.F.R. § 141.86(d)(4).

47 *Id.* § 141.82(g).

48 *Id.* § 141.81(b)(3)(ii).

49 *Id.* §§ 141.86(1)(i)-(iv).

50 *Id.* § 141.86(f)(2).

51 *Id.* § 141.86(f)(3).

52 *Id.* § 141.86(f)(4).

53 The systems must recommend to the State whether they will install coagulation plus filtration, ion exchange, lime softening, and/or reverse osmosis. 40 C.F.R. §§ 141.83(b)(1), (2). The current action plan prepared by EPA, Region III, the D.C. Aqueduct, and WASA reports that the D.C. Aqueduct conducted its original corrosion control study in June 1994, followed by a caustic soda feasibility study in October 1997 and a corrosion inhibitor study in May 1998. Action Plan to Reduce the Occurrence of Lead Leaching from Service Lines, Solder, or Fixtures into Tap Water in the District of Columbia and Arlington County and Falls Church, Virginia, prepared by U.S. EPA Region III, D.C. Aqueduct, and D.C. WASA (March 10, 2004).

54 Since source water treatment could increase water corrosivity (by increasing the presence of corrosion by-product in the water), and thereby impact the system’s ability to comply with corrosion control requirements, EPA believes considerations on whether to install source water treatment are best weighed on a case-by-case basis. 56 Fed. Reg. at 26,498.

55 40 C.F.R. § 141.83(b).

56 40 C.F.R. § 141.85(c). Systems serving communities with less than 3,300 persons are exempt from certain elements of the public service requirements. *See also* 40 C.F.R. § 141.85(c)(8).

57 56 Fed. Reg. at 26,500.

58 40 C.F.R. § 181.84.

59 56 Fed. Reg. at 26,503.

60 Regionalization Committee of the District of Columbia Water and Sewer Authority Board of Directors, Regionalization Study (December 2000) (“Regionalization Study”) at 3.

61 D.C. Code § 34-2201.01.

62 *Id.* § 34-2202.02(a) (emphasis added).

63 *Id.* § 34-2202.03(1).

64 *Id.* § 34-2202.03(3).

65 *Id.* §§ 34-2202.03(13)-(14).

66 *Id.* §§ 34-2202.08, 2202.10(k).

- 67 *Id.* §§ 34-2202.03(20), (22).
- 68 *Id.* § 34-2202.04(2).
- 69 *Id.* § 34-2202.04(3).
- 70 *Id.* §§ 34-2202.05(2)-(3).
- 71 *Id.* § 34-2202.04(g).
- 72 *Id.* §§ 34-2201.01(7)(B)-(C); *see also id.* § 34-2202.02(c) (“the general purpose of [WASA] is to plan, design, construct, operate, maintain, regulate, finance, repair, modernize, and improve water distribution and sewage collection, treatment, and disposal systems and services, and to encourage conservation”).
- 73 D.C. Mun. Regs. tit. 21, ch. 54.
- 74 D.C. Code § 7-731(a)(3) (emphasis added).
- 75 *See* Environmental Health Administration, Lead-Based Paint Management (last visited November 16, 2004), at http://dchealth.dc.gov/services/administration_offices/environmental/services2/lppd/index.shtm. *See also* D.C. Mun. Regs. tit. 22, § 118. Title 8 of the D.C. Code (Environmental and Animal Control and Protection) provides for the Mayor to adopt programs to reduce, eliminate and abate lead-based paint hazards meeting federal requirements. D.C. Code § 8.115.01, *et seq.* The programs are to include standards and procedures for conducting lead-based paint activities and communication outreach and education. Regulations at D.C. Mun. Regs. tit. 20 § 806 incorporate the federal requirements for training and certifying lead paint abatement practitioners, and designate the D.C. Department of Consumer and Regulatory Affairs as the responsible supervising agency.
- 76 D.C. Code § 7-1031, *et seq.*
- 77 District of Columbia Water and Sewer Authority, Comprehensive Annual Financial Report 2003 at 25.
- 78 11 Stat. 84. An Act to provide for the Care and Preservation of the Works constructed by the United States for bringing the Potomac Water into the Cities of Washington and Georgetown for the supply of said Water for all Governmental Purposes, and for the Uses and Benefits of the Inhabitants of said Cities. 35th Congress, Second Session, ch. 84 (1859).
- 79 Safe Drinking Water Act Amendments of 1996, Pub. L. 104-182, § 306, 110 Stat. 1685-1687.
- 80 MOU (last visited November 16, 2004), at http://www.epa.gov/reg3wapd/pdf/aqueduct_pdf/Aqueduct_appendixa.pdf.
- 81 District of Columbia Water and Sewer Authority, FY 2003-2012 Capital Improvement Plan, VIII-4 (2003) (last visited November 14, 2004), at <http://www.dcwasa.com/about/cip/aqueduct.cfm>.
- 82 *Id.*
- 83 Safe Drinking Water Act Amendments of 1996, Pub. L. 104-182, § 129, 110 Stat. 1660-1663.
- 84 42 U.S.C. § 300j-6(a).
- 85 *Id.* § 300j-6(b).
- 86 *Id.* § 300j-6(e).
- 87 Holder Report at 51.
- 88 *Public Confidence, Down the Drain: The Federal Role in Ensuring Safe Drinking Water in the District of Columbia: Hearing on Lead in WASA Water Before the House Comm. on Government Reform, 108th Cong.* (March 5, 2004) (testimony of Glenn Gertsell, Chairman, WASA).
- 89 *Carol D. Leonnig and D’Vera Cohn, “Agencies Brushed Off Lead Warnings: WASA, Army Corps were told of Report in 1994,” The Washington Post*, February 29, 2004, at A01.
- 90 40 C.F.R. § 141.85(c)(4).

- 91 *Id.* § 141.84(b).
- 92 *Id.* § 141.84(f).
- 93 Holder Report at 96-98.
- 94 *In Re District of Columbia Water and Sewer Authority*, No. SDWA-03-2004-0259DS, EPA Region III (June 18, 2004).
- 95 United States Environmental Protection Agency, 2003-2008 Strategic Plan, objective 2.1 (2003); see also United States Environmental Protection Agency website, SDWA National Enforcement Priorities (last visited November 16, 2004), at www.epa.gov/compliance/civil/programs/sdwa/sdwaenfpriority.html.
- 96 *Id.*
- 97 Lead-Free Drinking Water Act of 2004, 108th Cong., S. 2377 (May 4, 2004).
- 98 40 C.F.R. §§ 141.86(a), (d).
- 99 *Id.* § 141.80(c).
- 100 *Id.* § 141.85.
- 101 *Id.* § 181.84.
- 102 *See generally* Holder Report.
- 103 *Id.* at 37.
- 104 *Id.* at 43.
- 105 *Id.* at 45.
- 106 *Id.*
- 107 *Id.* at 46-47.
- 108 *Id.* at 47.
- 109 The LCR allows samples to be invalidated for one of four reasons: (1) the laboratory establishes that improper sample analysis caused erroneous results; (2) the State determines that the sample was taken from a site that did not meet the site selection criteria of the LCR; (3) the sample container was damaged in transit; or (4) there is substantial reason to believe that the sample was subject to tampering. 40 C.F.R. §§ 141.86(f)(1)(i)-(iv).
- 110 Holder Report at 49. Other reasons were also provided by the WASA employee during the investigation, including that the five samples were “backups” and therefore did not need to be included in the final results because WASA had enough samples.
- 111 Carol D. Leonnig, Jo Becker & David Nakamura, “Lead Levels in Water Misrepresented Across U.S.: Utilities Manipulate or Withhold Test Results to Ward Off Regulators,” *The Washington Post*, October 5, 2004, at A01.
- 112 40 C.F.R. § 141.85.
- 113 *Id.*
- 114 Living Lead-Free in D.C., D.C. Water and Sewer Authority and D.C. Dept. of Health (October 2002) at 3.
- 115 *Id.* at 7.
- 116 *Id.* at 8.
- 117 U.S. EPA, Recommendations For Improving the Washington, D.C. Water and Sewer Authority Lead in Drinking Water Public Education Program (April 30, 2004) at 3; *see also* Holder Report at 79-80

(WASA looked to publication of brochure as satisfaction of public education requirements), at 83-86 (failure of WASA to use mandatory language).

118 Holder Report at 85.

119 *Id.* at 83.

120 *Oversight of Drinking Water in D.C.: Before the Senate Comm. on Env't and Public Works, Subcommittee on Fisheries, Wildlife and Water*, 108th Cong. (April 7, 2004) (statement of Judy Lanard, M.D., Risk Communication Consultant).

121 *Id.*

122 *Id.*

123 Holder Report at 87.

124 *Id.*

125 *Id.*

126 *Id.*

127 Drinking Water Quality Report, D.C. Water and Sewer Authority (2003) at 4.

128 *Id.* at 5.

129 *Id.* at 4.

130 David Nakamura, "Water in D.C. Exceeds EPA Lead Limit," *The Washington Post*, January 31, 2004, at A01.

131 Avram Goldstein, "Experts Differ on Threat in D.C. Tap Water," *The Washington Post*, February 3, 2004, at B01.

132 Mike McClintock, "Learning More About Lead," *The Washington Post*, February 5, 2004, at H02.

133 Letter from WASA to Customers (February 9, 2004) at 2.

134 David Nakaruma, "D.C. Homes Urged to Flush Taps Longer," *The Washington Post*, February 19, 2004, at B01.

135 David Nakaruma and Avram Goldstein, "District to Issue Warning on Lead," *The Washington Post*, February 15, 2004, at A01.

136 Letter from D.C. Department of Health to WASA's Customers (February 26, 2004) at 1.

137 *Id.* at 2.

138 Holder Report at 97-98.

139 *Id.*

140 *Id.* at 96-98.

141 *Id.* at 109-111.

142 *Id.* at 112.

143 40 C.F.R. § 141.90(e)(1).

144 Even after several years of replacing 7 percent of its lead service lines, under the current LCR, WASA could still be required to continue replacement. Sampling results at the tap could continue to exceed the lead Action Level in 10 percent of homes due to lead leaching from water service parts within the home, or from water containing lead leached from lead service lines elsewhere in the system that flowed into areas of the system where line replacement has already occurred.

- 145 *Aging Water Supply Infrastructure: Hearing before the House Comm. on Transportation and Infrastructure, Subcommittee on Water and Environment*, 108th Cong. (April 28, 2004) (testimony of Jerry N. Johnson on behalf of the Association of Metropolitan Water Agencies).
- 146 *Public Confidence, Down the Drain: The Federal Role in Ensuring Safe Drinking Water in the District of Columbia: Hearing on Lead in WASA Water before the House Comm. on Government Reform*, 108th Cong. (March 5, 2004) (testimonies of Dr. Marc Edwards on behalf of Virginia Tech, Department of Civil and Environmental Engineering and Erik D. Olson on behalf of Natural Resources Defense Council).
- 147 *American Water Works Assoc. v. Environmental Protection Agency*, 40 F.3d 1266 (D.C. Cir. 1994).
- 148 *Id.* at 1274-75.
- 149 *Id.* at 1275 (“Because we vacate the rule for lack of public notice, we need not reach these substantive issues.”).
- 150 National Primary Drinking Water Regulation for Lead and Copper: Final Rule, 65 Fed. Reg. 1950 (January 12, 2000) (“After consideration of these comments, the Agency agrees that the broader definition of “control” (that is, the water system would be required to replace the portion of the [lead service line] that it owns plus any additional portion of the line that is has the authority to replace) could result in unintended delays and other complications. For this reason, EPA believes it is appropriate to equate “control” with “ownership” in order to eliminate potential legal confusion and delays in implementing the Rule”).
- 151 42 U.S.C. § 300i.
- 152 56 Fed. Reg. at 26,504.
- 153 Madison Water Utility, History of Lead Service Replacement (last visited November 16, 2004), at www.madisonwater.org/leadHis.html.
- 154 42 U.S.C. § 300g-6(d).
- 155 David Nakamura, “WASA Studying Meters for Lead,” *The Washington Post*, May 24, 2004, at A01.
- 156 Cal. Health & Safety Code § 25249.5.
- 157 Cal. Health & Safety Code § 25249.6.
- 158 *Natural Resources Defense Council, et al. v. Badger Meter, Inc., et al*, No. 984562, San Francisco (Cal. Super Ct. 2000).
- 159 *California v. American Standard*, No. 9480187, San Francisco (Cal. Super. Ct. 1995).
- 160 R.P. Maas and Steven C. Patch, Update on Research Regulations and Proposition 65 Litigations Related to Lead Discharge from Brass Water Service Parts and Meters, Address to the California-Nevada American Water Works Association Conference (October 8, 2003).
- 161 40 C.F.R. §§ 141.81-82; Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper: Final Rule, 56 Fed. Reg. 26,460, 26,479 (June 7, 1991).
- 162 40 C.F.R. § 141.81(e).
- 163 R.P. Maas and Steven C. Patch, Lead Exposure From Drinking Water: Recent History, Exposure Reduction Actions, and Current Status. Submitted February 4, 2004 for Special Lead Poisoning 100th Anniversary Edition of *Public Health Reports* (2004).
- 164 R.P. Maas, Steven C. Patch, R. Winfield, J. Pope and D. Morgan, Field-Based Corrosion Control and Monitoring Strategies for Meeting the Lead and Copper Rule Action Levels, American Water Works 1994 Annual Conference Proceedings (1994) at 517-533.
- 165 *Id.* at 524. Zinc ortho-phosphate, the most popular corrosion control additive at the time of the study, had an equally likely chance than not to be a successful lead inhibitor. *Id.*

- 166 *Id.* at 3.
- 167 Carol D. Leonnig and D’Vera Cohn, “Agencies Brushed Off Lead Warnings; WASA, Army Corps Were Told of Threat in 1994,” *The Washington Post*, February 29, 2004, at A01.
- 168 *Id.*
- 169 *Id.*
- 170 Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper: Final Rule, 56 Fed. Reg. 26,460 (June 7, 1991).
- 171 *Id.* at 26,467.
- 172 *Id.* at 26,478; 40 C.F.R. § 141.80(c).
- 173 56 Fed. Reg. at 26,472-73.
- 174 CDC, Morbidity and Mortality Weekly Report, March 30, 2004.
- 175 Lanphear, B.P., K. Dietrich, P. Auinger and C. Cox, “Cognitive Deficits Associated with Blood Lead Concentrations <10 ug/dL in US Children and Adolescents,” *Public Health Reports*, Vol. 115, p. 521 (2001).
- 176 *Id.*
- 177 *Id.*
- 178 EPA has estimated that a child consuming an average amount of water at the 15 ppb Action Level may have a blood lead level of 2.2ug/dL, assuming no other sources of lead exposure. Consumption of water with lead levels greater than the Action Level, however, may result in higher blood lead levels. Holder Report at 28.
- 179 R.L. Canfield et. al., “Intellectual Impairment in Children with Blood Lead Concentrations below 10 ug/dL,” *The New England Journal of Medicine*, Vol. 348, No. 16, pp. 1517-1526 (2003).
- 180 *Id.*
- 181 D.C. Bellinger and Herbert L. Needleman, Letter to the Editor, *The New England Journal of Medicine*, Vol. 349, No. 5, p. 500 (2003).
- 182 Mendelsohn, Dreyer, Fierman, Rosen, Legano, Kruger, Lim and Courtland “Low Level lead Exposure and Behavior in Early Childhood,” *Pediatrics*, Vol. 101, No. 3 (March 1998).
- 183 Preventing lead poisoning in young children: A Statement by the Centers for Disease Control (October 1991).
- 184 CDC has concluded that public health intervention should focus on eliminating all lead exposures in children, including drinking water. CDC, Morbidity and Mortality Weekly Report, March 30, 2004.
- 185 International Programme on Chemical Safety, Inorganic Lead, Environmental Health Criteria 165, Geneva: World Health Organization (1995).
- 186 *Public Confidence, Down the Drain: The Federal Role in Ensuring Safe Drinking Water in the District of Columbia, Hearing on Lead in WASA Water Before the House Comm. on Government Reform*, 108th Cong. (March 5, 2004) (testimony of Professor Ellen K. Silbergeld, Ph.D.).
- 187 *Id.*
- 188 CDC Morbidity and Mortality Weekly Report, March 30, 2004.
- 189 *Id.*
- 190 District of Columbia Department of Health, Blood Lead Level Screening Results, February 3 to July 20, 2004.

- 191 Mendelsohn, Dreyer, Fierrman, Rosen, Legano, Kruger, Lim and Courtlandt, "Low-Level Lead Exposure and Behavior in Early Childhood," *Pediatrics*, Vol. 101, No. 3 (March 1998).
- 192 Holder Report at 26-35.
- 193 For example, *see* U.S. Department of Housing and Urban Development (2004) (last visited November 16, 2004), at <http://www.hud.gov/offices/lead/leapboff.cfm>.
- 194 Implementation of primacy would require DOH to conduct investigations and litigation in some instances in conjunction with the D.C. Attorney General, capabilities DOH may or may not have at the current time.
- 195 Letter from Alvin Morris, Action Regional Administrator, U.S. EPA Region III to Mrs. Fevial Bishop, Administrator, Environmental Regulation Administration (May 31, 1994).
- 196 *Thirsty for Results Lessons Learned from the District of Columbia's Lead Contamination Experience: Hearing on Lead in WASA Water Before the House Comm. on Government Reform*, 108th Cong. (May 21, 2004) (testimony of Donald Welsh, EPA Region III Administrator).
- 197 40 U.S.C. § 51.
- 198 42 U.S.C. § 300j-6(a).
- 199 *Id.*
- 200 *Id.* § 300j-6(e).
- 201 766 A.2d 974 (D.C. 2001).
- 202 *Id.* at 977 (citing H.R. Rep. No. 104-635 at 6, 16, (1996)).
- 203 D.C. Code §§ 34-2202.02(a), 34-2202.03(1).
- 204 *Id.* § 34-2202.04(a)(3).
- 205 *Id.* § 1-2404.45(a).
- 206 *See also*, Amy Harding-Wright *et al. v. District of Columbia Water & Sewer Authority et al.*, Memorandum Opinion and Order, Civil Action 04-00558 (HHK) (slip op. August 31, 2004).
- 207 *Thirsty for Results Lessons Learned from the District of Columbia's Lead Contamination Experience: Hearing on Lead in WASA Water Before the House Comm. on Government Reform*, 108th Cong. (May 21, 2004) (testimony of Donald Welsh, EPA Region III Administrator).
- 208 While not an excuse for inaction, the District is not alone in deferring action. EPA recently conducted a survey of 50 states on compliance with the lead in drinking water fountains standards and found an overwhelming number of states not in compliance and relying on budgetary constraints to defend their lack of action on this very old regulatory program.
- 209 42 U.S.C. § 300i.
- 210 *See* Appendix C.
- 211 40 C.F.R. § 142.10.
- 212 *Id.* § 142.16.
- 213 *Id.* § 142.12.
- 214 *Id.* § 142.14.
- 215 *Id.*
- 216 42 U.S.C. § 300g-2; *see also* 40 C.F.R. § 142.10.
- 217 42 U.S.C. § 300f(13)(B).

- 218 David Nakamura, "WASA to Replace 2,800 Lead Pipes Over Next Year," *The Washington Post*, November 13, 2004.
- 219 *Id.*
- 220 David Nakamura, "WASA to Replace 2,800 Lead Pipes Over Next Year," *The Washington Post*, November 13, 2004.
- 221 Homes constructed during period of time are at the greatest risk of high lead levels. This definition revises the current definition of the LCR Tier I houses. This expansion from the current range of 1982 to 1986 will in turn increase the pool of eligible homes from which samples for the compliance testing are selected.
- 222 40 C.F.R. § 141.86(c).
- 223 *Id.* §§ 141.86(f)(1)(i)-(iv).
- 224 *Id.* §§ 141.84(a)-(b).
- 225 *Id.* § 141.85.
- 226 *Id.* §§ 141.81-82; *see also* Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper: Final Rule, 56 Fed. Reg. 26,460, 26,479 (June 7, 1991).
- 227 40 C.F.R. § 141.81(d).
- 228 42 U.S.C. § 300g-6(d).
- 229 Pub. L. 104-182, § 306, 110 Stat. 1685-1688.
- 230 We discuss the legal issues involved in interstate compacts and provide examples of successful compacts in Appendix B.
- 231 Brooke A. Masters, "New Agency May Run Aqueduct; Committee is Considering Public-Private Partnerships, Report Says," *The Washington Post*, August 21, 1997, at J2.
- 232 Memorandum from the D.C. Aqueduct Wholesale Customers Steering Committee to the New Public Entity Option Team (February 12, 1997) ("1997 Aqueduct Draft Plan") at p. 1.
- 233 Draft D.C. Aqueduct Authority Compact § 5(5) ("Draft Compact").
- 234 Brooke A. Masters, "New Agency May Run Aqueduct: Committee is Considering Public-Private Partnerships, Report Says," *The Washington Post*, August 21, 1997, at J2.
- 235 Draft Compact § 10.
- 236 Draft Compact §§ 6, 11.
- 237 Draft Compact § 9.
- 238 A contemporary news article reports that none of the wholesale customers wanted to take over the Aqueduct "because it needs extensive, expensive repairs." Amy B. Resnick, "Representatives to Try Splitting Water Agency, D.C. Budget," *The Bond Buyer*, November 14, 1997, at 3.
- 239 The report fulfilled the statutory requirement that WASA "determine the feasibility of establishing [WASA] as an independent regional authority and to make recommendations for the ongoing relationship of user jurisdictions to the authority." D.C. Code § 11-102.
- 240 Regionalization Committee of the District of Columbia Water and Sewer Authority Board of Directors, Regionalization Study (December 2000). The Regionalization Study includes two elements, the Regionalization Committee Report to the D.C.-WASA Board of Directors ("Committee Report"), and the D.C.-WASA Regionalization Study – Phase I Report, prepared by the Metropolitan Washington Council of Governments ("2000 Regionalization Study"). Committee Report at 1-2.
- 241 Committee Report at 6-7.

- 242 2000 Regionalization Study, Appendix A at A2.
- 243 *Id.* at 5.
- 244 *Id.*, Appendix C at C2-C3.
- 245 *Id.* at 12. Because COG conducted what it considered to be a preliminary analysis of feasibility, it assumed that the systems at issue were “self-sufficient and/or already interconnected” and did not evaluate whether there were any technical limitations to regionalization. *Id.* at 13.
- 246 Final Report of the Interagency Task Force on Lead in Drinking Water and Recommendations of the Co-Chairs, Anthony A. Williams and Carol Schwartz (April 22, 2004) at 3.
- 247 *Id.* at 28.
- 248 *Id.*
- 249 Lead in Drinking Water Regulation: Public Education Guidance at 2.
- 250 *Id.* at 3.
- 251 Lead in Drinking Water Regulation: Public Education Guidance at 21.
- 252 *Id.* at 17.
- 253 Holder Report at 91.
- 254 *Id.*
- 255 *Interim Inspector General Before the D.C. Comm. on Public Works and the Env't.* (2004) (statement of Austin A. Andersen, Interim Inspector General).
- 256 *Id.*
- 257 *Id.*
- 258 *Id.*
- 259 Interview with Joshua Das, Public Health Project Manager at MWRA (July 26, 2004).
- 260 The monthly reports are issued to public health officials, water departments and local elected officials. The weekly reports are issued to regulators and local elected officials.
- 261 Living Lead-Free in D.C. at 1.
- 262 *Carol D. Leonnig* and Avram Goldstein, “Response to Lead Blasted on Hill: EPA Threatens to Step In, Oversee D.C. Water System,” *The Washington Post*, March 4, 2004, at C01 (“Response to Lead Blasted on Hill”)
- 263 David Nakamura, “EPA Failed to Hold D.C. Accountable, Some Say: Regulators Gave WASA Leeway on Lead Action,” *The Washington Post*, February 23, 2004, at B01 (“EPA Failed to Hold D.C. Accountable”).
- 264 *Carol D. Leonnig* and D’Vera Cohn, “Agencies Brushed Off Lead Warnings: WASA, Army Corps Were Told of Threat in 1994,” *The Washington Post*, February 29, 2004, at A01 (“Agencies Brushed Off Lead Warnings”).
- 265 The study did note that phosphates were recommended if costs were not an issue.
- 266 *Id.*
- 267 *Hearing on Blue Plains Wastewater Treatment Plant Before the House Subcomm. on D.C. of the Comm. on Gov’t Reform and Oversight*, 105th Cong. (1997) (testimony of W. Michael McCabe, Regional Administrator, U.S. EPA, Region 3) (“1997 McCabe Testimony”).
- 268 *1997 McCabe Testimony*, *supra* note 6.

- 269 EPA Failed to Hold D.C. Accountable, *supra* note 2.
- 270 1997 McCabe Testimony, *supra* note 6.
- 271 Barrington Salmon, "EPA, Local Officials Set for Water Woes," *The Washington Post*, July 3, 1997, at C06.
- 272 1997 McCabe Testimony, *supra* note 6.
- 273 Monte Reel, "Digging for a Solution to D.C. Water Woes: Replacement of Lead Lines Begins on the First of Many Residential Blocks," *The Washington Post*, March 3, 2004, at B01 ("Digging for a Solution").
- 274 David Nakamura, "Focusing on the Bottom Line: Handling of Lead Issue Reflects WASA Chief's Rigid Political Style," *The Washington Post*, March 22, 2004, at A01 ("Focusing on the Bottom Line").
- 275 1997 McCabe Testimony, *supra* note 6.
- 276 Avram Goldstein, "City to Oust Health Chief: Agency Criticized in Review," *The Washington Post*, March 26, 2004, at B01 ("City to Oust Health Chief").
- 277 1997 McCabe Testimony, *supra* note 6.
- 278 Carol D. Leonnig and D'Vera Cohn, "D.C. Lead Issue Was Debated for Months: Regional EPA Office Decided No Federal Action Was Needed," *The Washington Post*, March 16, 2001, at A01 ("D.C. Lead Issue Was Debated for Months").
- 279 *In Re District of Columbia Water and Sewer Authority*, No. SDWA-03-2004-0259DS, EPA Region III (June 18, 2004) ("EPA Administrative Order").
- 280 Agencies Brushed Off Lead Warnings, *supra* note 3.
- 281 D'Vera Cohn, "Lead in D.C. Water Slashed: Decline Comes After WASA Resumes Using Chlorine as Disinfectant," *The Washington Post*, May 21, 2004, at B01 ("Lead in D.C. Water Slashed").
- 282 Agencies Brushed Off Lead Warnings, *supra* note 3.
- 283 *Id.*
- 284 Lead in D.C. Water Slashed, *supra* note 20.
- 285 David Nakamura, "WASA Studying Meters for Lead," *The Washington Post*, May 24, 2004, at A01 ("WASA Studying Meters for Lead").
- 286 Holder Report at 93-94.
- 287 D.C. Lead Issue Was Debated for Months, *supra* note 17.
- 288 Letter from Jon M. Capacasa, Director, Water Protection Division, EPA Region III to Thomas P. Jacobus, General Manager, D.C. Aqueduct and Jerry N. Johnson, General Manager, D.C. Water and Sewer Authority (August 3, 2004)
- 289 *Id.*
- 290 D.C. Lead Issue Was Debated for Months, *supra* note 17.
- 291 *Id.*
- 292 Gordon denies receiving the e-mail. *Id.*
- 293 *EPA Administrative Order*, *supra* note 18, at 3; *see also* Carol D. Leonnig, "Vt. Senator Wants Tougher Water Rules: D.C. Problems Prompt Plan for Far-Reaching Legislation," *The Washington Post*, May 4, 2004, at B01 ("Vt. Senator Wants Tougher Rules").
- 294 WASA Studying Meters for Lead, *supra* note 24.

- 295 *Id.*
- 296 D.C. Lead Issue Was Debated for Months, *supra* note 17.
- 297 EPA Failed to Hold D.C. Accountable, *supra* note 2.
- 298 Focusing on the Bottom Line, *supra* note 13.
- 299 WASA may be required to replace far more than 1,600 lines if its original estimate of 23,000 lead service lines is inaccurate. There are more than 27,000 that are made of “unknown” materials. If these lines are proven to consist of lead, they will be added to the tally and WASA’s replacement obligation would double. *EPA Administrative Order*, *supra* note 18 at 4-5.
- 300 Digging for a Solution, *supra* note 14. WASA failed to submit its report on time and did not adequately report the samples it took for the monitoring period of January to June 2003. In order to maintain consistency, regulations require WASA to take samples from the same 100 locations for each monitoring period. However, for the period in question, WASA did not include samples from all of the previously taken locations and did not explain why it failed to do so or identify the new sample sites. *EPA Administrative Order* at 13-14.
- 301 *EPA Administrative Order*, *supra* note 18 at 3.
- 302 *Id.* at 7-8.
- 303 *Id.* at 8-9.
- 304 D.C. Lead Issue Was Debated for Months, *supra* note 17.
- 305 David Nakamura, “WASA Official Defends Lead Disclosure Actions,” *The Washington Post*, April 22, 2004, at B01.
- 306 City to Oust Health Chief, *supra* note 15.
- 307 Gordon, the deputy director of the D.C. DOH who was contacted originally in October 2002, was also copied on the letter. Gordon’s office has said that he did not receive the copies of the December 22nd and January 28th letters from Johnson until February 25th and February 15th respectively, while Gordon was on medical leave.
- 308 *EPA Administrative Order*, *supra* note 18 at 3-4.
- 309 While initially WASA only provided water test kits to customers with lead service lines, they ultimately decided to send the kits to all customers that requested one. D.C. Lead Issue Was Debated for Months, *supra* note 17.
- 310 Response to Lead Blasted on Hill, *supra* note 1.
- 311 D.C. Lead Issue Was Debated for Months, *supra* note 17.
- 312 *EPA Administrative Order*, *supra* note 18 at 5.
- 313 Letter from Daniel R. Lucey, Interim Chief Medical Officer, D.C. Department of Health to WASA Customers (February 26, 2004).
- 314 51 D.C. Reg. 2833 (2004).
- 315 *EPA Administrative Order*, *supra* note 18 at 9.
- 316 Letter from Jon M. Capacasa, Director, Water Protection Division, EPA Region III to Jerry N. Johnson, General Manager, D.C. Water and Sewer Authority (March 31, 2004).
- 317 EPA Press Release, “WASA Agrees to Implement Interim Plan for Lead, Multi-agency Corrosion Team Presents EPA with Strategy,” (March 10, 2004).
- 318 *Id.*

- 319 Final Report of the Interagency Task Force on Lead in Drinking Water and Recommendations of the Co-Chairs (2004) (last visited November 16, 2004), at <http://www.dccouncil.washington.dc.us/SCHWARTZ/finaltaskreport.pdf>.
- 320 Carol Leonnig, "WASA Defends Its Actions on Lead," *The Washington Post*, April 24, 2004, at B01.
- 321 David Nakamura, "WASA Official Defends Lead Disclosure Actions," *The Washington Post*, April 22, 2004, at B01.
- 322 D.C. WASA Press Release, "Lead Information Update: School Water Tests" (April 2004).
- 323 Letter from Jon M. Capacasa, Director, Water Protection Division, EPA Region III to Thomas P. Jacobus, General Manager, D.C. Aqueduct and Jerry N. Johnson, General Manager, D.C. Water and Sewer Authority (April 30, 2004).
- 324 Resolution on Lead Testing in MDUs, 51 D.C. Reg. 4983 (2004).
- 325 Letter from Jon M. Capacasa, Director, Water Protection Division, EPA Region III to Thomas P. Jacobus, General Manager, D.C. Aqueduct and Jerry N. Johnson, General Manager, D.C. Water and Sewer Authority (August 3, 2004).
- 326 D'Vera Cohn, "Anti-Lead Chemical Changed in Water Plan," *The Washington Post*, May 27, 2004, at B01.
- 327 *EPA Administrative Order*, *supra* note 18.
- 328 D.C. WASA Press Release, "WASA Board Approves Plan to Replace All D.C. Lead Service Lines" (July 1, 2004).
- 329 U.S. Const. art. I, § 10, cl. 3 ("No State shall, without the consent of Congress . . . enter into any Agreement or Compact with another State . . .").
- 330 *See, e.g., Jennings Randolph Lake Project Compact*, Pub. L. No. 104-176, 110 Stat. 1557, 1561 (1996) ("When this Compact has been ratified by the legislature of each respective State, when the Governor of West Virginia and . . . Maryland have executed this Compact on behalf of their respective States . . . and when this Compact has been consented to by the Congress of the United States, then this Compact shall become operative and effective."); *Vermont-New Hampshire Interstate Public Water Supply Compact*, Pub. L. No. 104-126, § 2, 110 Stat. 884, 886 (1996) ("This compact shall become effective when ratified by the States of Vermont and New Hampshire and approved by the United States Congress.").
- 331 *See e.g., Jennings Randolph Lake Project Compact*, 110 Stat. 1557 ("The Congress hereby consents to the Jennings Randolph Lake Project Compact entered into between the States of West Virginia and Maryland which compact is substantially as follows.")
- 332 Marissa S. Briggert, Comment, *State Supremacy in the Federal Realm: The Interstate Compact*, 18 B.C. Envtl. Aff. L. Rev. 751, 761 (1991) (citing *Cuyler v. Adams*, 449 U.S. 433, 440 (1980) and *Pennsylvania v. Wheeling & Belmont Bridge Co.*, 54 U.S. (13 How.) 518, 565-66 (1852)).
- 333 *See generally* Council of State Governments, *Interstate Compacts: Introduction/Overview* (last visited November 16, 2004), at <http://ssl.csg.org/compactlaws/Introoverview.doc>.
- 334 Carlton James Gausman, Comment, *The Interstate Compact as a Solution to Regional Problems: The Kansas City Metropolitan Culture District*, 45 Kan. L. Rev. 897, 899 (1997) (quoting *Virginia v. Tennessee*, 148 U.S. 503, 520).
- 335 Council of State Governments, *supra* note 5 (discussing the effect of the Supreme Court's decision regarding the requirement of congressional consent of interstate compacts).
- 336 *Id.*
- 337 *Id.*

- 338 Michael L. Buenger & Richard L. Masters, *The Interstate Compact on Adult Offender Supervision: Using Old Tools to Solve New Problems*, 9 Roger Williams U. L. Rev. 71, 93-98 (2003) (analogizing interstate compacts to contracts between states with offer, acceptance, and consideration).
- 339 *Id.*; see also Council of State Governments, *supra* note 5.
- 340 Council of State Governments, *supra* note 5. See also e.g., *Jennings Randolph Lake Project Compact*, Pub. L. No. 104-176, 110 Stat. 1561 (“Either State may, by legislative act, after one year’s written notice to the other, withdraw from this Compact.”); *Potomac River Bridges Towing Compact*, D.C. Code § 9-1117.01 (providing the governor of Virginia or Maryland or Mayor of the District may withdraw from the compact at any time upon thirty days written notice to the other parties).
- 341 Council of State Governments, *supra* note 5.
- 342 Pub. L. No. 104-176, §1, 110 Stat. 1562.
- 343 Council of State Governments, *supra* note 5. Statutes authorizing compacts often include language expressly reserving to Congress the right to “alter, amend, or repeal” the Act or resolution. See e.g., *Jennings Randolph Lake Project Compact*, 110 Stat. 1562; *Vermont-New Hampshire Interstate Public Water supply Compact*, 110 Stat. 886; *Washington Metropolitan Area Transit Authority Compact*, Pub. L. No. 89-774, § 6(a), 80 Stat. 1324, 1353 (1966).
- 344 440 U.S. 391 (1979).
- 345 *Lake Tahoe Country Estates, Inc.*, 440 U.S. at 401. See also *Hess v. Port Authority Trans-Hudson Corp.*, 513 U.S. 30 (1994) (holding the interstate agency, Port Authority Trans-Hudson Corporation created between New York and New Jersey, did not enjoy Eleventh Amendment immunity).
- 346 *Petty v. Tennessee-Missouri Bridge Comm’n*, 359 U.S. 275 (1959) (holding a state’s assent to a “sue-and-be-sued” clause in an interstate compact, operated to waive its Eleventh Amendment immunity).
- 347 Pub. L. No. 89-774, § 86(2), 80 Stat. 1324, 1352 (1966), amending *Washington Metropolitan Area Transit Regulation Compact*, Pub. L. No. 86-794, 74 Stat. 1031 (1960).
- 348 *Court Services and Offender Supervision Agency Interstate Supervision Act of 2002*, Pub. L. No. 107-302, 116 Stat. 2353.
- 349 Pub. L. No. 93-198, 87 Stat. 774 (1973), amended by Pub. L. No. 98-473, 98 Stat. 1837 (1984).
- 350 D.C. Code § 1-206.02(c)(1).
- 351 *Id.*
- 352 D.C. Code § 9-1115.01. The legislative history to section 9-1115.01 notes the Mayor signed Law 11-96, the “Woodrow Wilson Bridge and Tunnel Compact Authorization Act of 1995,” on December 19, 1995 and transmitted it to both Houses of Congress for review. Law 11-96 became effective on February 28, 1996. *Id.*
- 353 *Federal Employees at the Metropolitan Washington Airports* Pub. L. No. 99-591, § 6008, 100 Stat. 3341-385 to 387 (1986).
- 354 *Washington Metropolitan Area Transit Regulation Compact*, Pub. L. No. 86-794, 74 Stat. 1031 (1960).
- 355 Pub. L. No. 89-774, 80 Stat. 1324 (1966).
- 356 *Id.* at 1325.
- 357 *Id.* at 1326-28.
- 358 Washington Metropolitan Area Transit Authority Board of Directors (last visited November 16, 2004), at http://www.wmata.com/about/board_gm/board.cfm.
- 359 Pub. L. No. 89-774, 80 Stat. 1328-29.

- 360 *Id.* at 1350.
- 361 *Id.* at 1331.
- 362 *Id.* at 1333-34.
- 363 *Id.* at 1335-39.
- 364 *Metropolitan Washington Airports Act of 1986*, Pub. L. No. 99-591, 100 Stat. 3341-376.
- 365 *Id.* § 6003, 100 Stat. 3341-377. Although Baltimore/Washington International Airport was not included, the implementing legislation states that nothing in the act “shall be construed to prohibit the Airports Authority and the State of Maryland from entering into an agreement whereby Baltimore/Washington International Airport may be made part of a regional airports authority.” *Id.*
- 366 *Id.* § 6007(b), 100 Stat. 3341-382.
- 367 *Id.* § 6005, 100 Stat. 3341-378 to 381 (detailing the lease agreement).
- 368 *Id.* §§ 6007(e)-(f), 100 Stat. 3341-383 to 385.
- 369 *Id.* § 6007(e)(1), 100 Stat. 3341-383.
- 370 *Id.* § 60007(e)(2), 100 Stat. 3341-383 (providing that the latter requirement does not apply to the member appointed by the President).
- 371 Metropolitan Washington Airports Authority, The Airports Advisory Committee -- Welcoming the World, (last visited November 16, 2004) at <http://www.metwashairports.com/authority/advcomm.htm> (noting that last year the Advisory Committee focused on the impact additional flights out of National Airport will have on noise and the impact of a new taxi contract at Dulles Airport).
- 372 Pub. L. No. 99-591, § 6007(c)(1), 100 Stat. 3341-382.
- 373 *Id.* §§ 6007(c)(3)-(5), 100 Stat. 3341-382.
- 374 *Id.* § 6005(c)(6), 100 Stat. 3341-380.
- 375 Metropolitan Washington Airports Authority, History and Facts (last visited November 16, 2004), at <http://www.metwashairports.com/authority/history.htm>.
- 376 Pub. L. No. 99-591, § 6007 (c)(2), 100 Stat. 3341-382.
- 377 Pub. L. No. 67-17 (1921) (no statute cites available).
- 378 *Id.* (preamble).
- 379 *Id.* arts. 4, 5, & 14.
- 380 The Port Authority of New York and New Jersey, Board of Commissioners (last visited November 16, 2004), at <http://www.panynj.gov/>.
- 381 Pub. L. No. 99-163, 93 Stat. 1242, 1252 (1979)
- 382 Pub. L. No. 67-17, art. 15.
- 383 The Port Authority of New York and New Jersey (last visited November 16, 2004), Governance, at <http://www.panynj.gov/>.

