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**STATEMENT OF  
BENJAMIN H. GRUMBLES  
ACTING ASSISTANT ADMINISTRATOR FOR WATER  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
BEFORE THE  
SUBCOMMITTEE ON ENVIRONMENT AND HAZARDOUS MATERIALS  
COMMITTEE ON ENERGY AND COMMERCE  
UNITED STATES HOUSE OF REPRESENTATIVES**

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Good morning, Mr. Chairman and Members of the Committee. I am Benjamin Grumbles, Acting Assistant Administrator for Water at the United States Environmental Protection Agency (EPA). I welcome this opportunity to speak to the Committee about the issue of lead in drinking water, the actions that EPA has been taking at the national level to address the matter, and the broader issue of water infrastructure. Regional Administrator Welsh will provide you with information on the activities underway to address the specific situation related to elevated lead levels in the District of Columbia's (D.C.'s) drinking water.

**Lead as a Public Health Concern**

EPA places a high priority on reducing exposure to lead. This contaminant has been found to have serious health effects, particularly for children. Health effects may include delays in normal physical and mental development in infants and young children; slight deficits in the attention span, hearing, and learning abilities of children; and, high blood pressure in some adults (which may lead to kidney disease and increased chance of stroke). But pregnant women and children are our primary concern. The Centers for Disease Control and Prevention (CDC) has identified a blood

lead level of 10 micrograms per deciliter as the level of concern for lead in children.

**Nationally,** approximately 2% of children between the ages of 1 to 5 were estimated to have blood levels that exceeded the level of concern for the period 1999-2000, a significant decrease from the 88% estimated to exceed that level for the period between 1976 to 1980. [Surveillance for Elevated Blood Lead Levels Among Children – United States, 1997–2001. Centers for Disease Control and Prevention. Surveillance Summaries, September 12, 2003. MMWR 2003:52 (No. SS-10)].

The most common source of lead exposure for children today is lead in paint, dust, and soil in older housing [see Risk Analysis to Support Standards for Lead in Paint, Dust and Soil (EPA 747-R-97-006, June 1998] This is primarily from housing built in the 1950s and homes with pre-1978 paint. Several Federal programs and surveillance and prevention programs at the State and local level continue to work towards reducing exposure to lead. In addition, EPA works with Federal agencies through the President's Task Force on Environmental Health Risks and Safety Risks to Children – on implementing a federal strategy to prevent childhood lead poisoning.

### **Lead in Drinking Water**

Although, in most circumstances, the greatest risks are related to paint, dust and soil, lead in drinking water can also pose a risk to human health. To reduce potential exposure to lead, EPA has set a maximum contaminant level goal of zero for lead in drinking water and has taken many actions over the last 20 years to reduce lead in drinking water. The 1986 Amendments to the Safe Drinking Water Act (SDWA) banned

the new use of lead solder, and leaded pipes from public water supply systems and plumbing, and limited faucets and other brass plumbing components to no more than 8% lead. To address lead in schools, the Lead Contamination Control Act (LCCA) of 1988 recalled drinking water coolers with lead-lined water reservoir tanks, and banned new drinking water coolers with lead parts. The 1986 SDWA Amendments also directed EPA to revise its regulations for lead and copper in drinking water.

An interim standard for lead in drinking water of 50 micrograms per liter, or parts per billion (ppb), had been established in 1975. Sampling of customer taps was not required to demonstrate compliance with this standard. In 1988, the Agency proposed revisions to the standard and issued a final standard in 1991. The revised standard significantly changed the regulatory framework. Unlike most contaminants, lead is not generally introduced to drinking water supplies from the source water. The primary sources of lead in drinking water are from lead pipe, lead-based solder used to connect pipe in plumbing systems, and brass plumbing fixtures that contain lead. Setting a standard for water leaving the treatment plant fails to capture the extent of lead leaching in the distribution system and household plumbing.

EPA requires public water suppliers to meet the regulations governing treated water quality distributed via the public water system. The regulations do not require homeowners to replace their plumbing systems if they contain lead. To reduce consumers' lead exposure from tap water, EPA used its available authorities to require public water suppliers to treat their water to make it as non-corrosive as possible to metals in their customers' plumbing systems. These treatment requirements were issued in EPA's Lead and Copper Rule (LCR) on June 7, 1991.

The rule requires systems to optimize corrosion control to prevent lead and copper from leaching into drinking water. Large systems serving more than 50,000 people were required to conduct studies of corrosion control and to install the State-approved optimal corrosion control treatment by January 1, 1997. Small and medium sized systems are required to optimize corrosion control when monitoring at the consumer taps shows action is necessary.

To assure corrosion control treatment technique requirements are effective in protecting public health, the rule also established an Action Level (AL) of 15 ppb for lead in drinking water. Systems are required to monitor a specific number of customer taps, according to the size of the system, with a focus on sites that have lead service lines or lead-based solder in their plumbing systems. If lead concentrations exceed 15 ppb in more than 10% of the taps sampled, the system must undertake a number of additional actions to control corrosion and to inform the public about steps they should take to protect their health. If a water system, after installing and optimizing corrosion control treatment, continues to fail to meet the lead action level, it must begin replacing the lead service lines under its ownership. The rule was subsequently revised in 2000 to modify monitoring, reporting and public education requirements, but the basic framework, including the action level, was not changed.

#### **Actions Undertaken by EPA Headquarters to Address the D.C. Situation**

As Regional Administrator Welsh will describe, EPA has been working with WASA and the Washington Aqueduct, managed by the U.S. Army Corps of Engineers,

which supplies water to WASA, to identify a treatment solution to reduce levels of lead from customer taps in many Washington, D.C. homes.

I fully understand the concerns that Congressional Members and Committees and City Leaders have regarding timely and effective public notification. EPA is reviewing the actions taken by all parties to ensure that we use the lessons learned to prevent such an event from taking place in the future – here in D.C. and in other communities across the nation. While the situation in D.C. appears to be unique, we are continuing to investigate the matter. However, in surveying States and regions, we have not identified a systemic problem of increasing lead concentrations in tap monitoring conducted by public water systems.

Staff from my program and EPA's Office of Research and Development have been working closely with the Region to provide technical assistance and are participating on the Technical Expert Working Group (TEWG) evaluating potential technical solutions to elevated lead levels. My staff convened a peer review panel to carry out an independent review of the TEWG's Action Plan. The input of the peer reviewers facilitated an acceleration of the technical solution to the problem that Regional Administrator Welsh will discuss.

#### **National Actions to Evaluate Lead in Drinking Water**

As head of the national water program, I have directed my staff to undertake several major actions to address the specific issue of lead in drinking water from a national perspective.

► *National Review of Compliance and Implementation of the Lead & Copper Rule*

My staff are working with our enforcement and regional drinking water program managers to embark on a thorough review of compliance with, and implementation of, the LCR. Our review will answer three questions:

1. Is there a national problem? Do a significant percentage of systems fail to meet the lead action level? Does a significant percentage of the population receive water that exceeds the lead action level?
2. How well has the rule worked to reduce lead levels in systems over the past 13 years, particularly in systems that demonstrated high lead levels in the initial rounds of sampling?
3. Is the rule being effectively implemented today, particularly with respect to monitoring and public education requirements?

Our initial focus is to ensure that EPA has complete and accurate information on the LCR in its Safe Drinking Water Information System (SDWIS). States were required to report specific results of monitoring (i.e., 90<sup>th</sup> percentile lead levels) to EPA for systems serving populations greater than 3,300 people beginning in 2002. In March, I asked EPA Regional Administrators to work with the States to ensure that all available information was loaded into the data system. As of June 1, 2004, states had submitted information to SDWIS for 89% of the 8,667 active systems in the country that serve more than 3,300 people. The most recent summary of the data received was made available to the public on June 23. For large systems (serving more than 50,000 people), the summary indicates that 12 systems, one of which is D.C., exceeded the action level during a monitoring period that ended in 2003. Those 12 systems serve a

total of 5.2 million people, although the population actually exposed to elevated lead levels in each community is likely lower. This is due to the nature of lead occurrence, which is largely due to leaching of lead from lead service lines and plumbing fittings and fixtures, and thus site-specific to homes that have those fixtures. An analysis of data for medium systems (those serving between 3,330 and 50,000) showed that 76 systems serving a total population of 1 million also exceeded the action level during 2003. Overall, we found that only 3.4% of the systems (27 of 744 large and 237 of 6,958 medium systems) for which we have data exceeded the lead action level during one or more monitoring periods since 2000.

Although we are currently seeing problems in the District, it appears that the 1991 regulation, which required systems serving more than 50,000 to install corrosion control, has been effective in reducing lead concentrations, and thus, the public's exposure to lead in drinking water. However, even though we have had success in reducing exposure, we must remain vigilant to ensure that treatment continues to control corrosion and that information on potential risks is communicated to the public. EPA continues to collect data and will release additional reports later this summer.

We are reviewing the systems that exceeded the action level in the initial rounds of sampling. We will work with our regional staff and states to better understand the actions taken by systems to address elevated levels of lead and whether those actions have been effective in lowering lead levels. Later this year we will embark upon a review of state programs to determine if the rule is being effectively implemented by those systems that have recently exceeded the action level.

► *Expert Workshops*

Another important part of EPA's national effort is to review existing requirements of the rule and associated guidance to determine if changes should be made to help utilities and states better implement the rule. The provision of safe drinking water is not an easy task. Treatment processes must be balanced to address multiple risks. EPA has developed guidance to assist systems in selecting among corrosion control treatment options and in balancing treatment processes when working to achieve simultaneous compliance with different standards. EPA has also released guidance to help utilities carry out effective public education and monitoring programs.

To help obtain additional information from experts, EPA is holding workshops on several components of the LCR Rule. The first two workshops were held in St. Louis, Missouri in mid-May. Thirty experts in corrosion control, water treatment, sampling and laboratory analysis participated in one or both of the workshops, and more than twenty observers attended. The first addressed utility experiences in managing simultaneous compliance with multiple drinking water rules and the second addressed sampling protocols for the rule. The experts noted that additional Agency guidance is needed to aid water systems in evaluating treatment changes, including disinfection changes and changes to coagulation processes, and the effectiveness of different corrosion inhibitors. The experts also identified concerns with distribution system maintenance and impacts of household plumbing on a system's ability to comply with the rule. Participants suggested that EPA review sampling provisions including the tiering criteria

that identify households for sampling and also suggested additional guidance on what monitoring is appropriate to evaluate the effects of treatment changes.

Experts in both workshops also identified issues that they and EPA believe warrant expert discussion in future workshops. These issues include small system issues, health effects of lead and risk communication, lead service line replacement requirements, monitoring for lead in schools, and removal of lead from brass alloys used in plumbing fixtures and other devices. EPA will hold a workshop on public education in September and will schedule meetings on additional subjects such as lead service line replacement and lead in schools later in the year.

► *Monitoring for Lead in School Drinking Water*

One of my highest priorities is to use all available tools to ensure that America's school children are not exposed to elevated lead levels in their drinking water. While States and schools took action in the late 1980's and early 1990's to remove harmful lead-lined coolers in accordance with the 1988 Lead Contamination Control Act (LCCA), lead solder and plumbing fixtures can still contain low levels of lead. States and schools should continue to monitor their water outlets to ensure that children are protected using EPA's recommended protocol for testing water in schools for lead. In March, I sent letters to State Directors of Health and Environmental Agencies seeking their help in better understanding State and local efforts to monitor for lead in school drinking water.

We heard from 49 states, Puerto Rico and the Navajo Nation and provided a summary of the responses to the public this week. Generally, states responded that they implemented the requirements associated with the LCCA and continue to focus on

ensuring that schools with their own water system are in compliance with the LCR. A few have expanded existing regulatory authorities to better address schools and day care facilities and several states have developed specific programs focused on improving drinking water quality and environmental health at schools. Most states agreed that minimizing lead in drinking water consumed by children is important and many are conducting surveys, expanding outreach efforts and taking advantage of partnerships to help them reach schools. However, states also indicated that it would be difficult to expand programs beyond existing efforts because state drinking water programs are challenged by shortfalls in funding. We are using the responses from states to help us determine if updated or additional guidance should be developed to help states and local governments conduct more comprehensive monitoring in schools and day care facilities.

### **Drinking Water Infrastructure**

This event has served as a reminder of what Americans generally take for granted - that we can turn on our faucets, whenever we want, to draw a glass of clean, safe water. It also reinforces the importance of discussions Congress, EPA, states, water utilities and other stakeholders are having about the nation's water infrastructure challenges. The nation faces risks of interruption in service quality and public health protection as a result of deterioration of aging infrastructure or outdated components, such as the lead service lines serving older homes in the District. In 2001, EPA released its second drinking water infrastructure needs survey which identified that more than \$150 billion would be needed over the next 20 years to address infrastructure

needed to provide service and protect public health, \$83 billion of which was associated with the pipes that carry water to and from treatment plants to consumers.

In 2002, EPA released its Clean Water and Drinking Water Infrastructure Gap Analysis, which used information from the Needs Survey and other sources. The report estimated that the 20-year drinking water infrastructure capital payment need is between \$178 billion to \$375 billion. The report also described the potential gap that could develop if current levels of spending do not increase to keep pace with needs that are increasing in response to aging infrastructure and growing and shifting populations. EPA estimated that, in the absence of additional spending, the total gap could range from \$0 to \$267 billion, with a point estimate of \$102 billion. However, the report also estimated how the gap would change if utilities took action to increase their revenue. If revenue were to increase at a rate of 3% annually, over the rate of inflation, the gap could shrink to between \$0 to \$205 billion, with a point estimate of \$45 billion.

While EPA's efforts were aimed at quantifying the gap at the national level, the ultimate impacts of funding gaps are felt at the local level. Local communities and utilities must make decisions on a daily basis to determine how to balance needs and available funding. For example, even if corrosion control treatment is effectively controlling lead concentrations in drinking water, many water utilities may have an ultimate goal of removing lead service lines from their service areas. However, utilities must consider that goal within the context of funding other public health priorities - to replace aging distribution pipes, the failure of which could result in microbial contamination, or to install treatment to comply with new and/or more stringent drinking water standards. Meeting current and future infrastructure needs will require significant

levels of commitment on the part of local, state and federal governments and an understanding of the true investment needs on the part of customers.

This Administration has made a commitment to continue funding our principal drinking water capital financing program, the Drinking Water State Revolving Fund program, at \$850 million annually through 2018 to help capitalize state programs that have already provided more than \$6 billion to finance projects within their states. However, it is clear that federal funding will not be able to meet all of the needs. Local communities and utilities need to ensure that their operations are sustainable for the long-term.

EPA's Sustainable Infrastructure Initiative, for which we have requested funding in the FY 2005 appropriation, is aimed at helping to encourage and promote actions that provide for better utility management, full-cost pricing of services and efficient use of water. Water conservation saves money for families, reduces infrastructure costs and protects the environment, which is why EPA and others are so enthusiastic about identifying and promoting incentives such as the potential new "Water Star" program, modeled, in part, on the successful Energy Star program. The Sustainable Infrastructure Initiative also promotes infrastructure decisions within the context of the watershed. For example, utilities and communities need to determine how source water protection will help them to avoid expenditures related to increasing treatment. EPA looks forward to working with all interested parties to implement the initiative and determine how we can meet the challenges that face the nation's water infrastructure.

### **Conclusion**

Mr. Chairman, this reminds us all of the importance of communication – especially with the public. To maintain public health and confidence, information communicated to the public must not only be accurate, but timely, relevant and understandable. While I believe that communication efforts on the part of the Region, the District's Department of Health and WASA have improved, there is still much to be done to ensure that the city's residents are aware of the steps they can take to protect their health.

The review of compliance and implementation, expert workshops and other efforts underway will help the Agency to determine whether it is appropriate to develop additional training or guidance or make changes as part of our review of existing regulations. Our immediate goal is to ensure that the residents and D.C. receive safe water and, more generally, that systems and States have the information they need today to fully and effectively implement the rule and minimize risks to public health.

We will continue to work closely with Congress, our public service partners and concerned citizens to investigate the situation in D.C. and to review implementation of the rule nationwide. EPA wants to ensure that citizens across the country are confident in the safety of their drinking water.

Thank you for the opportunity to testify this morning. I am pleased to answer any questions you may have.

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