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DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Public Hearing on HB 2075

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Good Morning Chairman Godshall, Chairman Caltagirone, and members of the Committee. Thank you for the opportunity to talk about the Commonwealth's public water systems and lead exposure and mitigation. My name is Tim Schaeffer, and I am the Deputy Secretary for the Office of Water Programs at the Pennsylvania Department of Environmental Protection (DEP). DEP staff are on the front lines protecting public health and ensuring safe drinking water every day by providing technical assistance, support, and oversight of public water systems.

Today, I will talk about how House Bill 2075 relates to the Commonwealth's safe drinking water program, the Lead and Copper Rule (LCR), and the challenges that remain in protecting the public from exposure to lead. While my remarks will focus on safe drinking water, DEP supports HB 2075 as a tool to make it easier for utilities to address both lead service lines (LSL) and sewer laterals.

First, a few facts about DEP's Safe Drinking Water Program.

Safe Drinking Water Program

The Safe Drinking Water Program's principal and enduring mission is public health protection. Vibrant and sustainable communities, their citizens, workforce, and businesses all depend on a safe, reliable, and adequate supply of drinking water. Economies only grow and sustain themselves when they have safe and reliable water supplies. The Commonwealth has more than 8,500 public water systems – third in the nation behind Michigan and Wisconsin. These public water systems serve drinking water to more than 11.3 million people, or 89% of Pennsylvania's population. Public water systems and the customers they serve rely on drinking water program staff to ensure that all applicable Federal and State requirements are met and the water is safe to drink.

The Commonwealth's public water systems are broken down by the following types:

- 1,949 community water systems (CWS).
- 1,083 nontransient noncommunity water systems (NTNCWS).
    - These include schools, child care facilities, businesses, etc.
- 5,314 transient noncommunity water systems (TNCWS).
    - These include restaurants, camp grounds, etc.
- Approximately 85% of our CWSs are small systems (serving less than 3,300 people), many of which lack technical, managerial, and financial capability.

Nationally and within Pennsylvania, public water systems face many challenges, including:

- Emerging and unregulated contaminants (per- and polyfluoroalkyl substances (PFAS), *Legionella* and other pathogens, harmful algal blooms and cyanotoxins, etc.);
- Threats to public water supply sources;
- Resiliency and sustainability;
- Simultaneous compliance (balancing microbial protection with disinfection byproducts and corrosion control treatment); and
- Aging infrastructure.

Every four years, the American Society of Civil Engineers publishes a Report Card for America's Infrastructure in the form of a letter grade based on the physical condition and needed investments for improvement. In 2014, Pennsylvania's drinking water infrastructure was given a "D" grade.

In addition, the Drinking Water Needs Survey and Assessment (DWNSA) is conducted every four years as mandated by the 1996 amendments to the Federal Safe Drinking Water Act. In the 2015 DWNSA, Pennsylvania documented $16.8 billion in infrastructure needs for the next 20 years to replace aging facilities and comply with safe drinking water regulations. The needs include:

- $11.1 billion* for transmission and distribution systems;
- $2.8 billion in treatment needs;
- $1.9 billion for water supply storage tanks;
- $617 million for sources of supply; and
- $350 million for other needs.

* Please note: that the $11.1 billion needed for distribution systems does not include lead service line replacement.

With this foundation, I will talk about lead exposure and the LCR.

Lead Exposure and the Lead and Copper Rule

Exposure to lead is associated with serious adverse health effects to the brain and nervous system, especially in young children. Infants and children exposed to lead may experience delays in physical and mental development, and may show deficits in attention span and learning disabilities. In adults, lead exposure can cause kidney problems and high blood pressure. And while it is important to recognize that major reductions in lead exposure have been achieved over the last 25 years, much more should be done. The crisis in Flint, Michigan, brought increased attention to the challenge of lead in drinking water.

Lead enters drinking water mainly from corrosion of lead-containing plumbing materials, including lead service lines, faucets, and fixtures with leaded brass, and pipes with lead solder. Lead was widely used in plumbing materials through the 1950s, and its use continued until 1986, when Congress amended the Safe Drinking Water Act, prohibiting the use of pipes and solder that are not "lead free." At that time, "lead free" was defined as solder with no more than 0.2% lead, and pipes with no more than 8% lead.

In 1991, the United States Environmental Protection Agency (EPA) promulgated the LCR to minimize lead and copper levels in drinking water through a treatment technique primarily aimed at reducing water corrosivity (lead solubility) through corrosion control treatment. EPA amended the LCR in 2000 and 2007 to improve the effectiveness of the rule. Provisions of the current rule include:

- An action level of 0.015 mg/L (15 ppb) for lead and 1.3 mg/L (ppm) for copper, based on the 90th percentile sample level. The action level is a technology-based requirement. The maximum contaminant level goal for lead is zero (0); there is no safe level of lead exposure.
- Lead and copper tap sampling in homes meeting high risk criteria (older homes with a LSL or copper pipe with lead solder).
- If the lead or copper action level is exceeded in more than 10% of tap water samples collected during a monitoring period, the water system must take specific follow-up or corrective actions, including the following:
    - Issue public education materials.
    - Monitor source water quality.
    - Conduct a corrosion control treatment (CCT) feasibility study.
    - Install and maintain optimized corrosion control treatment (OCCT).
    - If the system later exceeds the lead action level following installation of treatment, the system must implement a LSL replacement program (replace 7% per year).

Congress enacted amendments to the Safe Drinking Water Act, tightening requirements concerning lead in drinking water in 1996 and 2011. The 1996 amendments expanded the prohibition on lead to include the use of any plumbing fittings and fixtures that are not lead-free and prohibited their introduction into commerce. The 2011 amendments revised the maximum allowable lead content in the definition of "lead free" from not more than 8% to not more than a weighted average of 0.25% lead on the wetted surface. The revised definition went into effect in

January 2014. While these prohibitions have reduced the amount of lead allowed in plumbing materials, there are many older buildings that still have LSLs and/or plumbing materials made with a higher percentage of lead than currently allowed.

According to DEP records, LCR compliance rates for CY 2017 include the following:

- 3,032 (1,949 CWSs and 1,083 NTNCWSs) public water systems must comply with the LCR.
- 3,002 (99%) of systems are in compliance with the lead action level.
- 30 (1%) of systems are not in compliance, meaning they exceeded the lead action level.
    - Of these 30 systems, 13 are CWSs and 17 are NTNCWSs (of these 17 NTNCWSs, 4 are schools or child care facilities).

According to the National Center for Healthy Housing, Pennsylvania's housing stock is some of the oldest in the country. Approximately 40% of Pennsylvania's housing units were built before 1950 and likely contain lead paint and leaded plumbing materials. Based on the findings of two surveys conducted by the American Water Works Association (AWWA), a study published in 2016 estimates that Pennsylvania has ~160,000 LSLs. However, the actual number is unknown.

Lead Service Line Replacement

Public water systems are required to replace LSLs when the system has CCT in place and exceeds the lead action level. In 2017, several large water systems implemented LSLR programs under Consent Order and Agreements with DEP, including the Pittsburgh Water and Sewer Authority (PWSA) and the York Water Company. These systems must replace 7% of their LSLs per year so long as the lead action level in these lines is exceeded.

DEP encourages water systems to consider proactive voluntary or accelerated LSL replacement programs. However, LSL replacement presents substantial economic, legal, technical, and environmental justice challenges, including the following:

- In most cases, the public water system does not own the entire LSL. The water system-owned line generally extends from the water main to the curb stop, and the customer-owned line extends from the curb stop to the house. Homeowners may not be able to cover the costs of replacing their portion of the LSL, particularly those who live in older or disadvantaged neighborhoods.
- Partial replacement of LSLs should be avoided because it can make matters worse. Partial replacements have been associated with elevated lead levels due to the disturbance of particulate lead.
- Recent amendments have been passed for municipal water systems, and legislation is being considered for PUC-regulated water systems that would remove any legal obstacles for water systems subject to PUC jurisdiction that are considering full LSL replacement.
- In many cases, public water systems do not know the complete universe of LSLs within their service areas, especially the customer-owned portion of the lines. LSLs were used primarily before 1950, and records from this era are spotty in many municipalities. If records do not exist, the presence of lead must be confirmed through visual inspection and/or testing with swabs. In some cases, the service line is completely buried; and the only way to identify the material would be to dig up the line. It will take considerable time and resources for water systems to survey, inspect, and confirm the location of all LSLs.

- Once LSLs have been located, funding will continue to be a challenge. It is estimated that full replacement may cost $3,000 - $5,000 or more per LSL.

Additional challenges with the current LCR include the following:

- The LCR is one of the most complicated rules for states and water systems to implement due to the need to control corrosivity (or lead solubility) of treated drinking water as it travels through miles of distribution and plumbing systems. This is exacerbated by an aging infrastructure.

- The LCR is the only rule that requires sampling in homes and often by the homeowners themselves. The rule includes complex sample collection and monitoring location requirements intended to identify worst-case conditions. Homeowners must volunteer to have their homes tested. Maintaining a sufficient pool of sample sites is challenging for some systems.

- The selection of CCT and maintenance of OCCT requires an understanding of water chemistry and complex chemical reactions. The water chemistry must be maintained within vary narrow ranges for parameters such as pH, alkalinity, and dissolved inorganic carbon. OCCT can be affected by changes in pH, oxidation-reduction potential, microbial activity, chloride-to-sulfate ratio, natural organic matter, and iron/manganese/aluminum concentrations. These factors can adversely impact the protective pipe scale and increase lead solubility.

- There are also simultaneous compliance concerns when water systems try to balance the need for microbial protection with disinfection byproduct formation and OCCT.

EPA is in the process of developing long-term revisions to the LCR. It is expected that a proposed rule may be published in February 2019. Some of the key elements under consideration include:

- Requiring proactive LSL replacement and addressing concerns related to partial LSL replacement.
- Improving OCCT requirements.
- Incorporating a health-based benchmark to strengthen protection.
- Considering the potential role of point-of-use filters.
- Clarifying and strengthening sampling requirements.
- Increasing transparency and information sharing.
- Improving public education.

Once a federal rule is finalized, DEP will work to incorporate the provisions into our regulations. In the meantime, our staff will continue to work with water systems to improve compliance rates and maintain OCCT through surveillance, training, technical assistance, and, when necessary, enforcement.

Support for HB 2075

As outlined in Representative Charlton's co-sponsor memo, HB 2075 was introduced to address Pennsylvania's aging infrastructure by allowing PUC-regulated utilities to proactively replace homeowner's water and sewer laterals when there is a public health concern such as lead in the same manner as municipal authorities and municipal governments are authorized to do.

HB 2075 amends Title 66 (Public Utilities) to provide for valuation of and return on the costs incurred for the replacement of customer-owned lead water service lines and the replacement or rehabilitation of damaged customer-owned sewer laterals. DEP supports HB 2075 as a way to help utilities under PUC jurisdiction conduct full lead service line replacement, avoid partial replacements, and recoup associated costs. While still allowed under the Federal and State Lead and Copper Rule, partial replacements have been associated with elevated lead levels due to the disturbance of particulate lead.

Summary

In summary, the LCR and amendments offered the water community a promise of enhanced public health protection through a framework of treatment technique requirements aimed at reducing corrosivity and exposure to lead. Much progress has been made, but more work is needed to protect public health and maintain the economic health of our communities. State and federal drinking water programs, in partnership with professional associations, environmental groups and other stakeholders, have come together to identify the problems and find solutions. DEP supports HB 2075 as another tool in the long-term effort to solve the problem.

Partnerships have been formed, such as the LSLR Collaborative, to pull together available resources, provide best practices, and help inform the conversation. The Collaborative is a diverse group of public health, water utility, environmental, labor, consumer and housing organizations, including the Association of state Drinking Water Administrators. The Collaborative maintains an online toolkit to help communities voluntarily develop and implement LSL removal programs. The toolkit includes suggested practices to identify and remove LSLs, available information on funding options, lessons learned from communities

across the country, and links to additional resources. More information can be found on the Collaborative's website (www.lslr-collaborative.org).

DEP is committed to fulfilling the promise of ensuring safe drinking water and protecting public health, and we appreciate the opportunity to join you here today.