Nutley Mayor Joseph P. Scarpelli Statement to the House Committee on Science, Space, & Technology

Congresswoman/Chairwoman Sherrill, Congressman/Ranking Member Norman, and members of the Committee. Thank you for the opportunity to speak with you today about lead in drinking water. I hope I can enlighten you on some of the issues our small town of Nutley, NJ, and the surrounding municipalities, have been experiencing over the last few months.

Although the issue of lead in drinking water received its most recent publicity in Flint, MI, and now in Newark, NJ, lead pipes throughout the country, especially in older towns and neighborhoods, is an issue that will continue to plague us until all those lines are replaced.

As a mayor of a small town, and as a result of this recent issue, my knowledge about lead pipes, water treatment, and water testing has grown to a level that I did not expect.

Despite the many years of literature on the dangers of lead water pipes and a national trend to restrict and prohibit the use of lead for water distribution, the lead industry continued to promote and sell lead pipes for many years. Lead material was less expensive and more durable than the other options available. Lead pipes could also be easily bent, allowing pipes to be shaped to conform to the contours of existing buildings or other structures.

Lead can enter drinking water when plumbing materials that contain lead corrode, especially where the water has high acidity or low mineral content. The most common sources of lead in drinking water are from lead pipes, faucets, and fixtures.

It is important to understand the way water enters the home. The water is collected in reservoirs or other surface water. It travels from the source water supply to treatment facilities. At these facilities, water is treated and sent via transmission lines to the various water utilities. It is important to note that at a municipal level, the water utility does not treat the incoming water. There is an interconnection which is metered and allows water into the individual municipality's water mains. Attached to the water mains are service lines which deliver the water to each property. That service line is divided into two sections. One from the main to the curb shut-off and one from the shut-off to the house. The water then passes through the home's water meter and into the internal plumbing of the home.

Township of Nutley
Water Department

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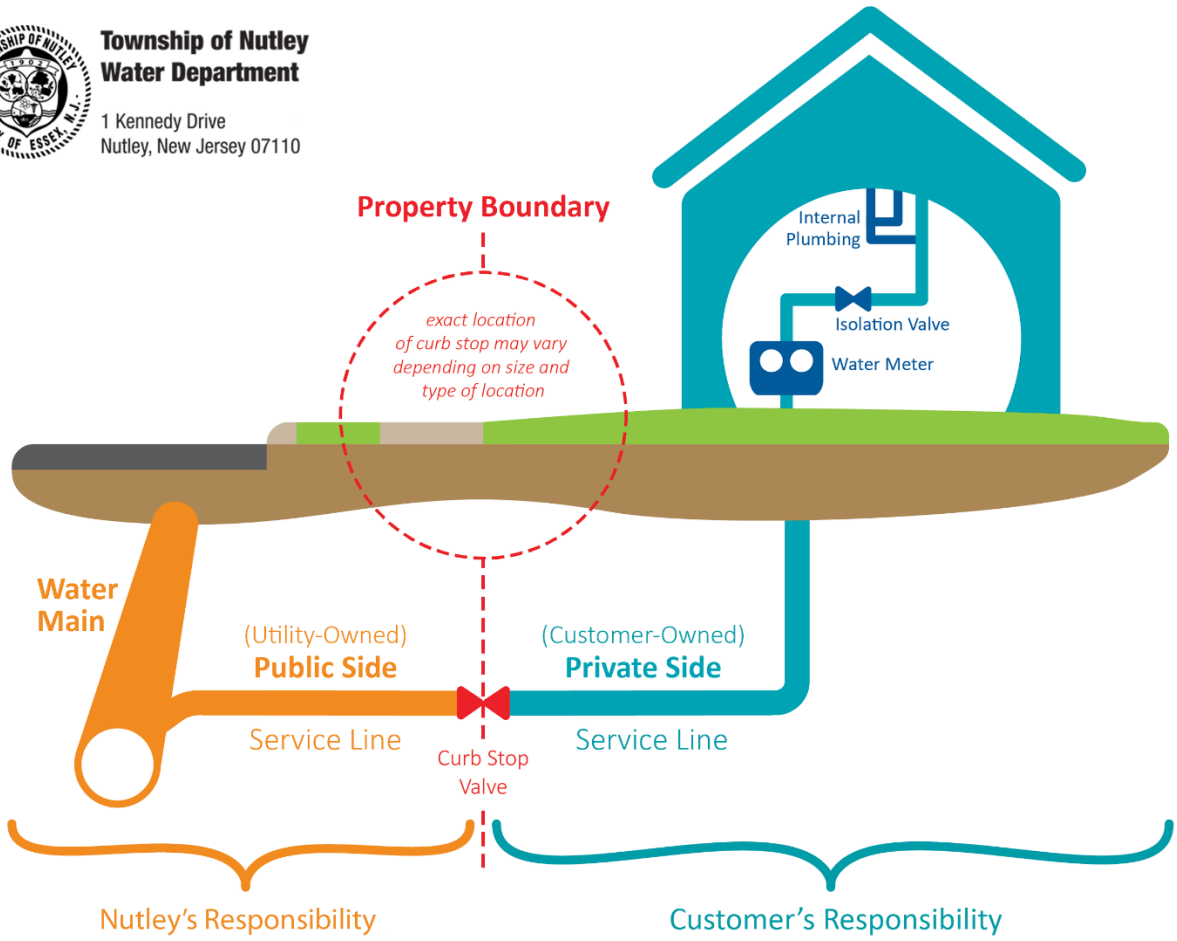

Homes with lead service lines are typically the most significant source of lead in the water. Lead pipes are more likely to be found in older cities and older homes. The homes without lead service lines can also be problematic; as lead can leach from brass or chrome-plated brass faucets and plumbing with lead solder.

The EPA requires monitoring of the drinking water at the customer's tap. Although zero lead in our potable water is the goal, if lead concentrations exceed an action level of 15 parts per billion (ppb) in more than 10% of customer taps sampled, the local water system must undertake a number of additional actions to control corrosion.

Corrosion is a dissolving or erosion of metal caused by a chemical reaction between water and the plumbing. A number of factors are involved in the extent to which lead enters the water, including:

- The chemistry or pH (acidity and alkalinity) of the water and the types and amounts of minerals in the water,
- The amount of lead that comes into contact with the water,

- The water temperature,
- The age of the pipes,
- How long the water sits in the pipes, and
- The presence of protective coatings inside the plumbing materials.

The Newark Crisis came to light in 2017 when the city reported that lead levels exceeded 15ppb. In October 2018, Newark started distributing filters to those homes that exceeded these lead levels. The Pequannock treatment plant, which is part of the Newark Water System, had been using sodium silicate as a corrosion inhibitor. The exact mechanism of how sodium silicate works is really unknown, but experts theorize that there is a thin gel-like layer that coats the inside of the pipes. In addition, the sodium silicate raises the pH making the water less corrosive. Somewhere along the way, the pH of the water coming out of the Newark Water system became neutral to acidic, which allowed the lead to leach into the water.

In May 2019, Newark Water switched to zinc orthophosphate for corrosion control. Orthophosphate forms a mineral crust on the inside of the pipes preventing oxidation of the pipes. Although orthophosphate is the more effective corrosion control additive, the downside is that this method takes months to create the protective coating.

The Township of Nutley has two water suppliers. There are 436 homes that are supplied by Newark Water. That accounts for less than 5% of the total homes and businesses. The rest of our Township receives water through another supplier.

The most recent media and newspaper accounts reported that the water filters, distributed by the City of Newark to residents, had failed to remove the lead out of their drinking water. This prompted not only a public outcry, but also provoked the EPA and NJ DEP to take action. (It should be noted that subsequent extensive testing revealed that 97% of these filters removed lead to below acceptable levels).

We, in Nutley, have participated in various meetings and conference calls with the NJ DEP, the NJ Governor's office, state legislative leaders, the Essex County Executive, and other local officials for updates on Newark Water and the effect on our community.

After careful consultation with our professionals, Nutley has taken proactive measures to address the situation thrust upon us merely be being a customer of Newark Water.

We encourage all residents, as a matter of habit, to run their water for 1-2 minutes at the start of each morning. This daily practice will introduce fresh water into their homes.

The Township of Nutley has already begun the replacement of all known lead service lines as part of our long term infrastructure upgrades. Of the eight "known" lead service lines in the Newark area, three were lead and five had been changed over to copper and never documented.

Unfortunately, like many small townships with limited resources and manpower, our record keeping over the years has been inconsistent. Therefore, we must undertake the labor intensive work of investigating what type of service lines exist beneath the ground. This process involves the digging, mostly by hand, between the curb and sidewalk, to expose the pipes on both sides of the curb shut-off. Once the lead lines are identified, the lead line must be removed or abandoned and replaced with new copper lines. Our first goal is to change-out the service lines in our system that are supplied by Newark Water. The overall goal is to change-out all lead service lines in the Township of Nutley. The cost of this process across our entire town is exorbitant and will require capital improvement bonding.

The Township of Nutley has initiated a study to determine the steps needed to have the 436 homes receiving Newark Water switched to a different water supplier. We have provided free testing of the tap water in those homes. In addition, we offered free lead testing of children for all our families.

Thankfully, all our testing has been negative.

Although lead has been our primary concern, our Township is also dealing with elevated levels of haloacetic acid from the same Newark source water. Haloacetic acid is a byproduct of the disinfection process. Haloacetic acids are formed when disinfectants, such as chlorine, are used to treat water and react with naturally occurring organic and inorganic matter present in source waters.

In July 2019, Newark began addressing the disinfection byproduct levels by introducing potassium permanganate and moving their pre-chlorination location. These changes should lower the haloacetic acid to below the allowable limit.

In the meantime, we had to notify our residents that drinking this water in excess of the allowable 60 micrograms/liter:

- May over many years increase the risk of cancer, and

- If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care providers about drinking this water.

In conclusion, let me offer some ideas that this committee can look into, and hopefully, these suggestions will come to fruition in the future.

- Technology that offers the ability to detect lead water lines underground without having to excavate. This would result in the savings of both money and manpower, not only at a local level, but when extrapolated nationwide would result in 100s of millions of dollars in cost savings.
- The development of new anticorrosive water treatments and technologies that offer superior protection from not only lead, but also prevent copper leaching into our drinking water.
- Innovative, cost-effective physical, chemical, and biological water treatments that eliminate bacteria, along with controlling disinfection byproducts, while at the same time results in the elimination of any unpleasant color, odor, and taste.

Our collective goal is to continue to offer all our citizens clean, safe drinking water.

Thank you for your time and attention.