

An Updated Look at the Results of Lead-in-Water Testing At NYS Public Schools

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The following is an update to a February 2017 article I wrote based on data available at that time. Since then, the number of schools reporting their results went from 2,925 to 4,445 and the number of outlets went from 262,259 to 398,193. There were some interesting changes in the data.

In August 2016, Governor Cuomo signed legislation that required all public schools to test EVERY water outlet in their schools for lead. The New York State Department of Health (NYSDOH) soon followed with emergency regulations that required the testing to be completed by October 31, 2016, with results to be provided to both their local community and the NYSDOH shortly thereafter. Any outlet with lead concentrations above state standards (15 parts per billion, ppb) must be addressed.

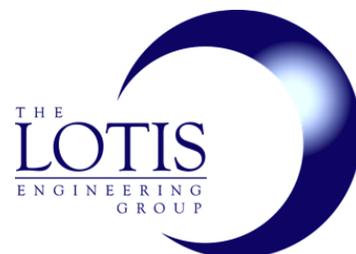
Background

As most know, lead is toxic and is especially harmful to children; it has been shown to result in lower IQs. In New York State, and likely most states, young children are regularly tested for lead in their blood and elevated levels reported to the local DOH. The DOH then completes an assessment on the possible sources, including the child's home and anywhere else children spend significant time.

Likely not unrelated to the disaster in Flint, Michigan, numerous states have realized that the potential exists that school aged children are exposed to lead within the drinking (and cooking) water at their local school. New York was the first state to take the step to require testing of ALL facilities, although several other states are now doing some localized sampling.

The Testing

While there is no need to go into the details of the testing methods, a few things have become obvious. First, no one was ready for this requirement. The DOH notified the schools in late August, requesting that the results be completed by October 31. As of May 23, 2017, 4,445 separate schools, or some 398,193 outlets (based on the NYSDOH website). Per that same website, some six and one-half months after the due date, all of the data has yet to be collected (or at least posted).



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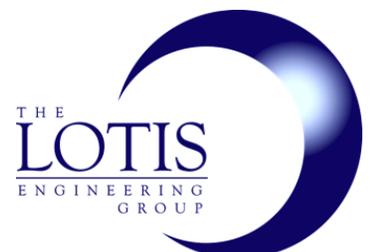
From experience, the delay in the data was likely due to several factors. First, while they were to be reimbursed, the schools were not prepared for the impact to their budgets of either hiring consultants to complete the work or, if they used their own staff for sampling, having the testing completed and collated. The consultants were not ready. The testing had to be completed at odd hours, generally overnight or on weekends. The laboratories were not ready. While running a single water sample for lead is relatively simply, running over a quarter million of them is an issue. The work had to be shipped to laboratories all over the country just to get the testing done on time.

There is now concern that the sampling may not have been completed properly. There have been numerous news articles that the testing method used in the New York City schools included some line flushing before the sampling and sporadic re-sampling without the flushing has resulted in significantly higher lead concentrations. Resampling is likely required.

The Results

Based on a review of the NYSDOH data, I was able to deduce a few items.

- Lead-free Buildings – The DOH required that the school district specifically state if one or more of their schools were “lead-free,” meaning that NO outlets contained elevated lead concentrations. Note that each school (not each district) had to make this distinction but the data does not tell us the number of lead-free buildings, only whether ANY of a school’s buildings were lead-free. Approximately 1.8% of schools had a lead-free building, meaning more than 98% of the schools had at least one outlet with elevated lead concentrations. This was interesting to me as I would assume that more than 2% of all schools in New York State are of a more recent construction, constructed at a time where the risks of lead were known. Apparently, the date of construction does NOT appear to correlate to lead concentrations.
- Impacted Outlets – The DOH data suggests that approximately 12.0% of all outlets have elevated concentrations of lead. Without additional data, we cannot assess any patterns to help identify the source of the impacted outlets (sediment, lines, outlets, etc.).
- Early Testers – The regulation allowed the schools to use data that they had collected from sampling completed prior to the new regulation’s implementation. There were almost 60,000 outlets tested prior to that time; some schools had already tested all of their outlets. While several of those schools had elevated lead in some of their outlets, the data does not tell us if they acted on those results. (The number of early testers did not change significantly between February and May 2017.)



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- Lotis' Results - The NYSDOH website does not include the actual test results, only how many outlets included lead concentrations above and below the 15 ppb cutoff. Knowing concentrations, or at least a range, would be useful from the state; Lotis' highest lead in water concentration was over 1,000 ppb. Further, Lotis' experience suggests that the impact is often coming from the spigot itself, as opposed to the lines. This is based on our observations that while there in some instances where there were rows of spigots connected to a single supply line, only one of the spigots contained elevated lead concentrations. What's even more curious is that it was not obvious that the single impacted spigot was not of the same make and vintage of the others.

Remedial Options

The NYSDOH referred schools to USEPA guidance for addressing the impacted outlets (the USEPA's 3Ts document). Generally, the possible actions vary from change in practice (regular flushing of lines, limiting use of some outlets to avoid drinking or cooking), filtering and/or replacement of lines and/or outlets.

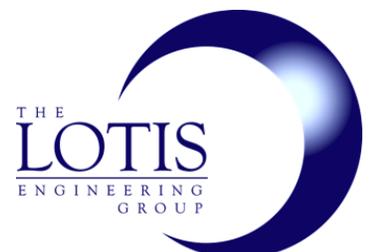
It would appear, as a parent and grandparent, that the first option is not acceptable. Unless the outlet is only used to water the grass outside, it is difficult to envision a situation where an outlet almost anywhere at the school would not expose children to the water at some point. Signs or procedures to restrict a bathroom faucet from being used for drinking or limiting a kitchen sink faucet to cold water use only (unless the hot water is permanently shut off) is not practical.

Filtering initially appeared to be an acceptable solution. However, based on Lotis' experience and knowledge of available filtering systems, the most aggressive filtering systems, such as reverse osmosis, are not capable of reducing the most significantly impacted outlets to below the 15 ppb regulatory level.

Replacement appears to be the best option, and lead-free outlets and lines are readily available. While changing out an outlet is relatively easy and can likely be addressed by school personnel, replacement of water lines would likely require significant (read costly) effort to be done by a licensed contractor.

Conclusions

The New York State public school study was like a big experiment on the presence of lead in water in large buildings with multiple water outlets. We learned that it is very likely at least one outlet dispenses water with elevated lead concentrations. Further, more than one-in-ten outlets likely have elevated lead. There is no apparent rhyme or reason related to age of the structure and it may well not be related to lead pipes but the outlets themselves. Each and every outlet must be sampled.



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What Next?

This is obviously not an issue limited to New York State and not limited to public schools. Virtually any facility or operation that caters to the public, especially children, is exposed to potential liability. In New York City, they have now required day care facilities to sample their water. Dozens of schools in Western Massachusetts have been identified as having elevated lead in their outlets. In Pennsylvania, there is a class action lawsuit against a school district for not acting on elevated concentrations of lead in their outlets. Hospitals have found elevated lead in their water used to care for the sick.

If your facility may be impacted by this issue, Lotis is recommending a pro-active approach. A program completed at your pace, not one imposed by a regulator, would result in lesser costs. Lotis has extensive experience in completing multiple site studies around the country at reasonable costs. However, we also suggest that you not collect such data unless you are prepared to act on it. As schools outside of New York are learning, the public, especially parents, will take action if you don't.

About the Author

Bob has been completing environmental due diligence for lenders for 30 years. He has developed and managed environmental programs, as a consultant and bank employee, for some of the largest and smallest banks in the country. He has also devised bank programs for construction monitoring and routine property inspections.

