

March 13, 2019

Re: CLF Supplemental Testimony on Senate Bill No. 40 entitled “An Act relating to testing and remediation of lead in the drinking water of schools and child care facilities” and House Bill No. 302 entitled “An Act relating to testing and remediation of lead in drinking water of schools”

Dear Chair Webb,

Conservation Law Foundation (CLF) submits the following supplemental testimony on Senate Bill No. 40 entitled “An Act relating to testing and remediation of lead in the drinking water of schools and child care facilities” (“S.40”) and House Bill No. 302 entitled “An Act relating to testing and remediation of lead in drinking water of schools” (“H.302”).

CLF strongly supports S.40, and provides this additional testimony to respond to testimony provided by other parties. First, lead in drinking water can be a significant source of lead exposure. Second, the Committee must amend S.40 to require remediation of lead at 1 part per billion (ppb). The Environmental Protection Agency’s (EPA) Lead and Copper Rule treatment technique standard of 15 ppb does not protect our children and school communities, and is not justified. The 15 ppb treatment standard is not—and was never intended to be—a health-based standard or a determination about what is feasible for a drinking water tap. If this Committee were to adopt a 15 ppb action level, it would likely perpetuate social inequities in Vermont as some schools and centers would take action at lower levels that protect children while others would continue to expose children to unsafe levels of lead. Third, H.302 falls far short of protecting our children and teachers from lead exposure, and is missing key provisions around testing methodology and notification.

CLF incorporates by reference our written testimony filed with this Committee on February 27, 2019. We urge this Committee to make the recommended changes outlined in our prior testimony on S.40, and to pass this bill out of Committee without delay, as even low levels of lead can cause permanent damage to a child.

I. Lead in drinking water at schools and child care centers is a significant threat to public health that must be addressed immediately.

There is no debate that lead in drinking water is a potential significant source of lead poisoning for both children and adults.¹ According to EPA, drinking water can be “a significant contributor to overall exposure to lead, particularly for infants whose diet consists of liquids made with water, such as baby food, juice, or formula.”² An article published in THE GUARDIAN on March 6, 2019, entitled *A hidden scandal: America’s school students exposed to water tainted by toxic lead*, spotlights the alarming fact that, despite a century-long effort to remove lead from Americans’ daily lives, contamination of drinking water in schools remains a public health crisis in this country.³

While the Centers for Disease Control and Prevention (CDC) previously issued statements that generated confusion over the seriousness of the effect of elevated water lead levels on the health of children⁴—and as a result misled public health officials, local decisionmakers, and the media for years on the importance of this source of lead poisoning,⁵—the CDC has since clarified that lead in drinking water is a source of potential exposure.⁶ Moreover, the CDC asserts that “[n]o safe blood level has been identified and all sources of lead exposure for children should be controlled or eliminated.”⁷

EPA estimates that between 10 to 20 percent of human exposure to lead may come from lead in drinking water.⁸ Further, experts suggest that this estimate may not accurately reflect the

¹ Drinking water has been directly linked to elevated levels of lead in children’s blood in Washington, DC, North Carolina, Maine, and Michigan, among other states. Rebecca Renner, *Out of Plumb: When water treatment causes lead contamination*, ENVIRONMENTAL HEALTH PERSPECTIVES (Dec. 2009), available at

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2799485/pdf/ehp-117-a542.pdf>; Melissa Denchack, *Flint Water Crisis: Everything you need to know*, NATURAL RESOURCES DEFENSE COUNCIL (Nov. 8, 2018), available at

<https://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know#sec-summary>.
² 3 Ts for Reducing Lead in Drinking Water at Schools and Child Care Facilities at 13, EPA (July 2018), https://www.epa.gov/sites/production/files/2018-09/documents/final_revised_3ts_manual_508.pdf (“3 T’s Manual”).

³ Jessica Glenza and Oliver Milman, *A hidden scandal: America’s school students exposed to water tainted by toxic lead*, THE GUARDIAN (Mar. 6, 2019), available at <http://tinyurl.com/y2g9zch7>.

⁴ *Lead in Tap Water: CDC Public Health Communications Need Improvement*, U.S. GOVERNMENT ACCOUNTABILITY OFFICE at 3 (April 4, 2011), available at <https://www.gao.gov/products/GAO-11-279> (“GAO Report”).

⁵ See Carol Leonnig, *CDC misled District residents about lead levels in water, House probe finds*, WASHINGTON POST (May 20, 2010), available at <http://www.washingtonpost.com/wp-dyn/content/article/2010/05/19/AR2010051902599.html?noredirect=on>; GAO Report at 10.

⁶ “About Lead in Drinking Water,” CDC WEBSITE, <https://www.cdc.gov/nceh/lead/leadinwater/> (“Lead can also be found in some water pipes inside the home or pipes that connect homes to the main water supply pipe. Lead found in tap water usually comes from the decay of old lead-based pipes, fixtures or from leaded solder that connects drinking water pipes.”).

⁷ *Id.*; see also “Water,” CDC WEBSITE, <https://www.cdc.gov/nceh/lead/tips/water.htm> (noting that although most studies show that exposure to lead-contaminated water alone would not be likely to elevate blood lead levels in most adults, risk will vary depending on the individual, the circumstances, and the amount of water consumed, and that infants who drink formula prepared with lead-contaminated water may be at a higher risk because of the large volume of water they consume relative to their body size) (emphasis added).

⁸ 3 T’s Manual at 2.

full picture of lead exposure from drinking water given the lack of comprehensive testing. For example, a Program Manager at the Portland, Oregon Water Bureau stated:

This entire issue of water as a source of lead for children is surrounded by assumptions that could well be masking a significant problem. The exposure pathway is clear—from the plumbing to the tap to the child—but [lead-]contaminated water looks, smells, and tastes exactly like pure water. The only way to know is to measure lead levels accurately. But we aren't. It's a sure bet you won't find something if you don't look for it.⁹

An environmental engineer at Virginia Polytechnic Institute and State University similarly noted that “[t]here is strong evidence that the problem of lead in drinking water is much bigger than realized.”¹⁰ The engineer stated that the incidences of lead poisoning from drinking water uncovered in several cities across the country represent just the “top of an iceberg.”¹¹

Regardless of the relative contribution of drinking water lead to a child's elevated blood lead level, there is universal agreement about the need to eliminate this source of exposure. As the Chief of CDC's Lead Poisoning Prevention Branch stated: “It would be a mistake to place various sources of lead in competition with each other. Identifying and removing sources of lead before children are exposed should be our focus.”¹²

Lead contamination in Vermont is a serious problem, and we must act quickly to eliminate lead exposure in school and childcare center drinking water. Given the particular vulnerability of this population, there is no excuse for further delay. From 2012-2016, the rate of elevated blood lead levels of children in Vermont was nearly double the national average.¹³ A recent pilot study found lead in the drinking water of all sixteen Vermont schools that participated.¹⁴ These statistics demonstrate that we must do a better job to protect the health of Vermont's children. A critical step towards eliminating lead as a public health hazard is to proactively address lead contamination in drinking water in Vermont schools and child care centers through the mandatory testing and remediation program set forth in S.40.

⁹ Rebecca Renner, *Exposure on Tap: Drinking water as an overlooked source of lead*, ENVIRONMENTAL HEALTH PERSPECTIVES (Feb. 2010), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2831942/>.

¹⁰ Rebecca Renner, *Out of Plumb: When water treatment causes lead contamination*, ENVIRONMENTAL HEALTH PERSPECTIVES (Dec. 2009), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2799485/pdf/ehp-117-a542.pdf>.

¹¹ *Id.*

¹² Rebecca Renner, *Exposure on Tap: Drinking Water as an Overlooked Source of Lead*, ENV'TL HEALTH PERSPECTIVES (2010), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2831942/>.

¹³ Center for Disease Control, CDC's National Surveillance Data (2012-2016) 7-8 (2017), available at <https://www.cdc.gov/nceh/lead/data/CBLS-National-Table-508.pdf>.

¹⁴ *Vermont Lead in School Drinking Water Testing Pilot Report*, VT Agency of Natural Resources (Sept. 2018) 8, available at http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_HS_LeadSchoolWaterPilotReport.pdf (all 16 schools in the pilot had at least three taps where lead was detected above the Vermont Health Advisory Level of 1 part per billion) [hereinafter VT PILOT REPORT].

II. EPA’s Lead and Copper Rule standard of 15 ppb does not protect children, and is not a justifiable action level for lead in school or child care center drinking water.

H.302 (the bill introduced in the House pertaining to lead testing in schools) contains EPA’s Lead and Copper Rule treatment technique standard of 15 ppb as the remediation action level. There is no plausible justification for this Committee to adopt legislation with an action level of 15 ppb. It is an improper standard to use for an action level in schools and child care centers for several reasons, and puts our children and school communities at risk.

First, the 15 ppb standard in the Lead and Copper Rule is not a Maximum Contaminant Level (MCL) for lead in drinking water; rather, it is a “treatment technique” standard developed by EPA in lieu of an MCL.¹⁵ EPA may adopt a treatment technique in lieu of an MCL where it has determined that it is not economically or technologically feasible to ascertain the level of a contaminant through testing.¹⁶ In the case of lead in drinking water, EPA determined that public water systems (PWS) cannot feasibly test for lead in the water at every tap or outlet in their systems (i.e., hundreds of individual homes, schools, businesses that have multiple taps). Instead, the Lead and Copper Rule only requires PWS to test at high risk locations, with priority given to single family houses that may be more likely to be at risk for lead contamination.¹⁷ EPA then set a trigger of 15 ppb as a means to notify a PWS when they would need to adopt certain system-wide treatment techniques to control for lead.¹⁸ If greater than 10 percent of the testing locations meet or exceed the 15 ppb standard, the PWS must undertake certain system-wide treatment techniques to control for lead.¹⁹ When developing this standard, the EPA did not evaluate the technical and economic feasibility of remediation options at a drinking water tap.

In short, the 15 ppb standard merely functions as a screening tool for determining when PWS must adopt certain treatment techniques for the system and has been widely criticized because it does not protect public health.²⁰ The rule does not address technical and economic feasibility of remediation at drinking water taps, and EPA itself has made clear that the 15 ppb standard does *not* reflect a determination that the water is safe to drink.²¹ EPA’s own *3 T’s Manual* states: “the action level [of 15 ppb from the Lead and Copper Rule] is not a health-based

¹⁵ “Lead and Copper Rule,” EPA WEBSITE, <https://www.epa.gov/dwreginfo/lead-and-copper-rule>

¹⁶ 42 U.S.C. § 300g-1(b)(7)(A).

¹⁷ 40 C.F.R. § 141.86.

¹⁸ *Id.* at 141.80.

¹⁹ *Id.* at 141.90.

²⁰ See e.g., *Get the Lead Out: Ensuring Safe Drinking Water for our Children at School* at 10-11 ENVIRONMENT AMERICA (Feb. 2017) (“Lead and Copper Rule only mandates remediation when tests show lead concentrations in water greater than 15 parts per billion . . . even though there is no safe level of lead in drinking water.”), available at <https://uspirg.org/reports/usf/get-lead-out>; David Mitchell, *Preventing Toxic Lead Exposure Through Drinking Water Using Point-of-Use Filtration* at 1081, ENVIRONMENTAL LAW INSTITUTE (2018) (“The ‘action level’ for lead [of 15 ppb] is *not* a health-based standard, but rather reflects ‘a level that is generally representative of effective corrosion control treatment.’”) (emphasis in original) (quoting EPA’s Lead and Copper Rule), available at <https://elr.info/news-analysis/48/11074/preventing-toxic-lead-exposure-through-drinking-water-using-point-use-filtration>; EPA’s *3 T’s Manual* at 36 (“[T]he action level [of 15 ppb from the Lead and Copper Rule] is not a health-based standard.”).

²¹ *3 T’s Manual* at 36.

standard.”²² In contrast, the EPA’s health-based standard, known as the maximum contaminant level goal, for lead is 0 ppb.²³

Second, the Lead and Copper Rule is outdated. It was first promulgated in 1991—approximately *thirty years ago*—and remains largely unchanged. EPA’s much more recent guidance document on lead in drinking water at schools—the *3 T’s Manual*—last revised in 2018, recommends states reduce lead levels to the “lowest possible concentrations” in consideration of guidance from the state health department.²⁴ Vermont’s Department of Health (VDH) has established a health advisory for lead in drinking water at 1 ppb.

Third, adoption of a 15 ppb action level would likely perpetuate social inequities, and have a disproportionate adverse impact on Vermont children and school communities in lower socioeconomic status communities where families may already be struggling with a diverse set of challenges. It is universally accepted in the medical and health community that 15 ppb is *not* a health-based standard.²⁵ Setting the action level at 15 ppb will create a situation where some schools and centers will choose to take action at a level that protects public health while some schools and centers will continue to expose children and teachers to unsafe levels of lead. This is particularly troubling because studies show that children in lower socioeconomic status households are at greater risk of harm from lead poisoning than other children because children with nutrient deficiencies absorb a greater amount of lead in their bloodstream than well-nourished children.²⁶ Therefore, a 15 ppb action level would likely perpetuate social inequities and disproportionately impact our most vulnerable Vermont children.

For all of the reasons above, the 15 ppb action level in EPA’s Lead and Copper Rule does not protect children and is not justified. Instead, this Committee should amend S.40 to include the VDH health advisory level of 1 ppb.²⁷

III. H.302 does not protect our children and teachers from lead exposure.

In addition to the 15 ppb action level, H. 302 is not sufficient protection from lead exposure in drinking water because the bill excludes child care centers, does not include

²² *Id.*

²³ *National Primary Drinking Water Regulations*, EPA, <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>.

²⁴ *3 T’s Manual* at 36.

²⁵ *See, e.g.*, EPA’s *3 T’s Manual* at 36 (“[T]he action level [of 15 ppb from the Lead and Copper Rule] is not a health-based standard.”); *Lead Levels Below EPA Limits Can Still Impact Your Health*, NPR (Aug. 13, 2016) (EPA official noting that 15 ppb standard “was never designed to identify a safe level of lead in drinking water.”); Katner et al., *Weaknesses in federal drinking water regulations and public health policies that impede lead poisoning prevention and environmental justice*. ENVIRON. JUSTICE 9(4):109 (2016); *Health Effects of Low-Level Lead*, National Toxicology Program, U.S. DEP’T OF HEALTH AND HUMAN SERVICES, available at <https://ntp.niehs.nih.gov/pubhealth/hat/noms/lead/index.html>.

²⁶ Testimony of Dr. Molly Costanza-Robinson to the House Committee on Education, Feb. 26, 2019; Bradman et al., *Iron Deficiency Associated with Higher Blood Lead in Children Living in Contaminated Environments*, ENV’T L HEALTH PERSPECTIVES (Oct. 2001), available at <https://ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.011091079>.

²⁷ *See* CLF Written Testimony on Feb. 26, 2018 for further explanation on why 1 ppb is the only health-based standard, and is technically achievable.

sufficient detail regarding lead testing and remediation, and has weak notification and recordkeeping requirements. First, H.302 excludes child care facilities and fails to protect our most vulnerable children. While Vermont's Child Care Licensing regulations require child care facilities to test for lead, the current requirements are flawed in three ways: (1) the required sampling procedures do not meet EPA's lead testing recommendations for schools and child care facilities;²⁸ (2) the remediation level is 15 ppb, which is not a health-based standard;²⁹ and (3) the rules do not require any notice to parents or guardians to inform them that sampling will take place, or of the results and any remediation plans. The time of greatest brain growth and most intensive construction of brain architecture is in the prenatal phase to the first few years after birth, continuing more slowly throughout childhood into puberty.³⁰ Thus, it is this early developmental period of time that infants and children are most vulnerable to toxic exposure.³¹ In contrast, S.40 includes child care facilities, and addresses the shortcomings of the current lead testing requirements in those settings.

The second reason H.302 is not sufficient is that it lacks necessary details around lead testing procedures or remediation guidance. As was demonstrated several years ago when New York City had to retest all of its school drinking water because of flawed sampling procedures,³² it is vital that schools follow an established, robust sampling protocol that is no less stringent than those included in EPA's *3T's Manual*. S.40 contains necessary detailed requirements for testing that is absent from H.302. Likewise, S.40 requires VDH to issue guidance on developing a lead remediation plan that is consistent with the EPA's *3T's Manual*; H.302 requires no such guidance to be issued.

Third, H.302 fails to provide adequate notification to parents and guardians before testing will take place. Notification prior to testing is important to ensure transparency and accountability, as well as to educate and prepare parents and teachers in advance of receiving test results so that the communication around the results and remediation efforts is not hampered by a general lack of understanding in the school community. S.40 includes a requirement to provide, not only the test results and remediation plans, but also notification that testing will occur.

²⁸ Vermont's Child Care Licensing Regulations instruct child care facilities to comply with the testing requirements in the Vermont Water Supply Rule, which instructs facilities to use 1L samples. Vermont Child Care Licensing Regulations at 15, https://def.vermont.gov/sites/def/files/CDD/Docs/Licensing/FCCH_Final.pdf. This sample size is four times bigger than the recommended sample size by EPA, and therefore problematically dilutes the sample. See EPA 3 T's Manual at 36 (recommends the use of small samples (e.g., 250-mL) because a smaller sample represents a smaller section of plumbing, which can help identify the sources of lead at an outlet (e.g., fixture, interior plumbing, or water entering the school), and a smaller sample is more representative of the amount of water consumed per serving).

²⁹ Vermont Child Care Licensing Regulations at 15.

³⁰ See U.S. Green Building Council Report, *Perspectives on State Legislation Concerning Lead Testing in School Drinking Water*, at PDF page 6, available at <https://www.usgbc.org/resources/perspectives-state-legislation-concerning-lead-testing-school-drinking-water>.

³¹ National Scientific Council on the Developing Child (2006). *Early Exposure to Toxic Substances Damages Brain Architecture: Working Paper No. 4*. at 2. Retrieved from www.developingchild.harvard.edu.

³² Kate Taylor, Most New York City Schools Had High Levels, Retest Finds, NY Times (April 28, 2017), <https://www.nytimes.com/2017/04/28/nyregion/new-york-schools-lead-water.html>.

Fourth, H.302 is missing any record keeping requirement for the lead samples, and has a much weaker public notification requirement than S.40. Under S.40, the Commissioner of Health must post all lead sample results from the prior two years on VDH's website. This creates a transparent and accessible resource for parents, teachers, and others concerned about lead in schools and child care facilities. In contrast, H.302 only requires notification to parents and guardians, and only mandates posting of results on the individual school's website. It is unclear whether the test results would be limited to the most recent sampling round, or if schools would be required to maintain and post prior test results.

Finally, H.302 fails to contain an enforcement section, meaning it is unclear what the procedures would be for a violation of the act's requirements. In contrast, S.40 sets forth a clear and fair process by which authorities can enforce requirements and impose reasonable penalties, but only after schools and child care facilities have been given an opportunity for a hearing.

In sum, H.302 fails to adequately protect our children, teachers, and school staff from lead exposure in drinking water because 15 ppb is not a health-based standard, and the bill excludes child care facilities, lacks necessary detail regarding testing procedures and remediation plans, has much weaker notification and recordkeeping requirements, and does not include reasonable enforcement procedures.

IV. Delay is not acceptable.

Every day the Legislature delays in enacting S.40 is another day where children, teachers, and school staff may be exposed to toxic lead. As the medical and public health community have documented, exposure to even small amounts of lead can cause significant and irreversible damage to a child.³³ As one medical doctor has noted, “[w]hile we are not taking much action, children are being damaged on a generational level.”³⁴ In addition to the individual, family, and societal costs of lead exposure, the economic costs of lead poisoning are massive. According to one study, lead poisoning is costing the nation an estimated \$84 billion annually, including lost future earnings, and health, education, and incarceration costs associated with elevated blood lead levels.³⁵

CLF urges the Committee to amend S.40 by (1) adopting an action level of 1 ppb; (2) requiring *annual* lead testing specified in statute; (3) ensuring *all* test results are made available (not just those above action level); and (4) adding a requirement to develop a “Get the Lead Out” plan of action to prevent elevated lead levels in all water used for drinking or cooking; and to approve this bill without further delay. CLF provided a mark-up of S.40 with these recommended amendments in our written testimony submitted to this Committee on Feb. 27, 2019.

³³ See *Health Effects of Low-Level Lead*, National Toxicology Program, U.S. DEP'T OF HEALTH AND HUMAN SERVICES, available at <https://ntp.niehs.nih.gov/pubhealth/hat/noms/lead/index.html>.

³⁴ Jessica Glenza and Oliver Milman, *A hidden scandal: America's school students exposed to water tainted by toxic lead*, THE GUARDIAN (Mar. 6, 2019), available at <http://tinyurl.com/y2g9zch7>.

³⁵ *10 Policies to Prevent and Respond to Childhood Lead Exposure*, Pew Charitable Trust (Aug. 2017), <https://www.pewtrusts.org/en/research-and-analysis/reports/2017/08/10-policies-to-prevent-and-respond-to-childhood-lead-exposure>.

Thank you for your consideration. Please do not hesitate to contact me with any questions.



Elena Mihaly
Staff Attorney
Conservation Law Foundation
emihaly@clf.org
802-622-3012