clf
conservation law foundation

For a thriving New England

CLF Vermont
15 East State Street, Suite 4
Montpelier, VT 05602
P: 802.223.5992
F: 802.223.0060
www.clf.org

February 27, 2019

Rep. Kathryn Webb, Chair
Rep. Lawrence Cupoli, Vice Chair
Rep. Peter Conlon, Ranking Member
Rep. Sarah "Sarita" Austin
Rep. Lynn Batchelor
Rep. Caleb Elder
Rep. Dylan Giambatista
Rep. Kathleen James, Clerk
Rep. Philip Jay Hooper
Rep. Christopher Mattos
Rep. Casey Toof

Re: CLF 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"

Dear Chair Webb,

Conservation Law Foundation (CLF) submits the following 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" (hereinafter referred to as "S.40"). CLF strongly supports S.40 and recommends several amendments to strengthen the bill.

Lead is a toxic metal that causes serious irreversible health effects at even low levels of exposure, including damage to the nervous system, learning disabilities, shorter stature, impaired hearing, impaired formation and function of blood cells, and miscarriage, stillbirth, or premature birth and minor malformations in pregnant women. Medical and public health experts are unanimous that there is no safe level of lead exposure. A recent pilot study of 16 schools in Vermont showed that every school tested had at least one drinking water tap with lead levels above the Vermont Department of Health's (VDH) standard of 1 part per billion (ppb). S.40 is a major step forward in protecting our children against toxic lead exposure.

CLF's testimony briefly sets out the problem of lead exposure from contaminated drinking water in schools and early education child care facilities, provides an overview of the significant economic and social costs of lead exposure, and discusses how this is a preventable problem. Next, CLF's testimony sets forth five core components that should be included in a successful lead remediation and removal program, highlighting where S.40 meets and falls short

of these components. Finally, CLF's testimony concludes with a summary of our recommended amendments to strengthen S.40.

As a part of CLF's testimony, please find enclosed several journal articles and reports that are referenced in the text below. Additionally, we include a red-line of the most recent version of S.40 (Draft No. 6.1, 2/1/19) with CLF's recommended amendments.

CLF protects New England's environment for the benefit of all people. Founded in 1966, CLF is a non-profit, member-supported organization with offices located in Vermont, Massachusetts, Rhode Island, Maine, and New Hampshire. CLF uses the law, science, and the market to create solutions that protect public health, preserve natural resources, build healthy communities, and sustain a vibrant economy. CLF has been a leading advocate for clean water and safe drinking water in Vermont and throughout New England, and is engaged in numerous efforts to address the threat of lead in drinking water throughout New England.

I. Public Health Risks of Lead Exposure – There is No Safe Level of Lead

Lead is a potent neurotoxin that can cause serious health consequences with even minimal human exposure. The medical and public health community universally recognizes that there is no safe level of lead exposure. *See* American Academy of Pediatrics' (AAP) *Prevention of Childhood Lead Toxicity Policy Statement* (AAP Policy Statement) (attached); *Vermont Lead in School Drinking Water Testing Pilot Study* at 8. Even low-level concentrations in children's blood lead level—such as concentrations below five micrograms per deciliter (μg/dL)—can result in adverse neurological, immunological, cardiovascular, renal, and/or reproductive and developmental effects. *See AAP Policy Statement*. No effective treatments ameliorate the permanent developmental effects of lead toxicity. *Id.*

Children are especially susceptible to lead poisoning through contaminated drinking water for several reasons. First, children have greater exposure to lead for their body weight than adults. A six-month-old infant drinks seven times more water per pound than an adult.[1] Second, children's metabolic pathways to breakdown and remove chemicals in their bodies are immature. As a result, their bodies can absorb four to five times more ingested lead than adults from a given source.[2] Third, children's early developmental processes are more easily disrupted by toxic exposure. 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.[3] Thus, it is this early developmental period of time that infants and

[1] Landrigan, Philip J. and Goldman, Lynn R., *Children's Vulnerability to Toxic Chemicals: A Challenge and an Opportunity to Strengthen Health and Environmental Policy*, JOURNAL OF HEALTH AFFAIRS (May 2011), available at: https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2011.0151

[2] *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.

[3] *Id.*

children are most vulnerable to toxic exposure.[4] Lead exposure in infants and children can cause attention disorders, loss of IQ, delayed learning, attention span difficulties, as well as behavioral, kidney, and hearing problems.[5]

Adults exposed to lead can also face long-term health risks, including decreased kidney function, increased blood pressure and incidence of hypertension, and other cardiovascular effects. *Id.* Many employees at schools or child care facilities are women of childbearing age; during a pregnancy, lead exposure for the mother can present severe vulnerability to a developing fetus.[6]

Because there is no safe level of lead in the body, the Environmental Protection Agency (EPA) set the maximum contaminant level goal for lead in drinking water at 0 ppb. Similarly, the American Academy of Pediatrics recommends that "state and local governments should take steps to ensure that water fountains in schools do not exceed water lead concentrations of 1 ppb." *See AAP Policy Statement* at 11. And in conformance with these health-based standards, VDH has set a Health Advisory level of 1 ppb for lead in drinking water.

II. Lead Contamination in Drinking Water is a Problem in Vermont

Despite the existence of definitive proof and widespread acknowledgement of the dangers of lead since the early twentieth century,[7] children across the U.S. continue to face significant lead poisoning hazards. Contaminated drinking water, in particular, remains a serious source of lead poisoning for children each year, both at home and at school.[8]

Vermont is no exception to this national trend. From 2012-2016, the rate of elevated blood lead levels of children in Vermont was nearly double the national average.[9] A recent pilot study conducted by the Vermont Agency of Natural Resources (ANR) and VDH found lead in the drinking water of all sixteen Vermont schools that participated, with at least three samples from each school's taps testing above the Vermont Health Advisory of 1 ppb for lead in drinking water. *See Vermont Lead in School Drinking Water Testing Pilot Study*. Five of the schools had levels 15 times the Health Advisory. *Id.*

---

[4] 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.

[5] U.S. Environmental Protection Agency. *Basic Information about Lead in Drinking Water*. EPA.gov, updated December 2016, accessible at https://www.epa. gov/ground-water-and-drinking-water/basic-informationabout-lead-drinking-water.

[6] World Health Organization (2018 February). Lead poisoning and health. http://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health.

[7] Emily A. Benfer, *Contaminated Childhood: How the United States Failed to Prevent the Chronic Lead Poisoning of Low-Income Children and Communities of Color*, 41 HAR. ENVTL. L. REV. 493, 496 (2017).

[8] American Academy of Pediatrics Council on Environmental Health, *Prevention of Childhood Lead Toxicity*, 138 PEDIATRICS 1, 8-9 (2016), *available at* http://pediatrics.aappublications.org/content/pediatrics/early/2016/06/16/peds.2016-1493.full.pdf.

[9] 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.

These data demonstrate that the health of Vermont's children, teachers, and child care providers must be better safeguarded. A critical step towards eliminating lead as a public health hazard is to proactively address lead contamination in drinking water in Vermont schools and early development child care facilities through mandatory testing and remediation.

III. There are Significant Economic and Social Costs of Lead Exposure

Lead exposure not only places massive, lifelong health-related costs on the individuals exposed, but it has social and financial costs to society and parents of exposed children as well. Environment America's *Get the Lead Out Report* (page 4-5) (attached), and another article attached by David Mitchell, *Preventing Toxic Lead Exposure Through Drinking Water Using Point-of-Use Filtration* (PDF page 5-6) (Mitchell Article) (attached), discuss the significant economic, personal, and social costs of lead exposure, including:

- Individual impacts from reduced intelligence, attention-deficit/hyperactivity disorder (ADHD), mental health disorders;
- Lost lifetime earnings for individuals exposed to lead; and
- Increased costs for children with special education needs, ADHD, and behavior and self-regulation challenges.

Lead poisoning from exposure to lead-contaminated water can similarly cause severe mental health emergencies for parents and families of children who have been impacted. Parents can suffer from guilt, extreme stress and anxiety, nervous breakdowns, and consideration of suicide after learning their children were exposed to lead in drinking water. *See* Mitchell Article at PDF page 5-6.

Researchers have quantified the social cost of lead exposure on society, accounting for costs from decreased wages, increased medical bills, as well as the cost of increases in violent crimes associated with childhood lead exposure. *See* Elise Gould, *Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control* (attached) and Mitchell Article. While we do not have specific social cost estimates from Vermont children's exposure to lead, these costs will undoubtedly far outweigh the costs of testing and remediating for lead exposure. *See* Joint Fiscal Office's testimony supplied by Stephanie Barrett on January 31, 2019. And importantly, these economic studies of the social cost of lead exposure only consider direct costs; it is harder to quantify other indirect costs to both individuals and society from lead poisoning, such as psychological or emotional impacts, lost quality of life, etc.

IV. Exposure from Lead-Contaminated Water is a Preventable Problem

Given the high toxicity of lead to children, the most health-protective policy is to "get the lead out" of our schools and early education child care facilities. This involves proactively removing lead-bearing parts from schools' drinking water systems — from service lines to faucets and fixtures — and installing filters certified to remove lead at every tap used for drinking or cooking. But because all of this prevention work takes time to complete, schools and early education child care facilities should also immediately begin annual testing of all water outlets used for drinking or cooking and promptly remove from service or remediate those

outlets where lead is detected above a health-based action level. And both schools and early education child care facilities should provide the public with easy access to all testing data, as well as the status of remediation plans.

Since 2014, fifteen states and Washington DC have enacted laws addressing lead contamination in school drinking water.[10] It is time for Vermont to catch up with these other states and eliminate this serious public health problem impacting our children.

V. Core Components of a Successful Program to Remove Lead in Drinking Water at Schools and Early Education Child Care Facilities

A successful program to remove lead contamination in drinking water at schools and early education child care facilities will include at least the following five core components: (1) mandatory annual testing; (2) a health-based action level; (3) strong notification requirements to parents, guardians, and VDH/ANR; (4) proactive planning to get the lead out of facility plumbing and fixtures; and (5) state funding for testing and remediation.

1. Mandatory Annual Testing

Lead testing of all drinking water and cooking water sources in schools and early education child care facilities must be mandatory, and occur annually. Annual testing is important because testing for lead at the tap to measure the risk of future lead exposure is inherently unreliable, and the circumstances under which samples are drawn can significantly affect the lead content of the sample. For instance, stagnation time, draw time, flow rate, flushing, the distance water travels in a lead service line, physical disturbance of lead service lines, water usage, and the time of year samples are drawn are all variables that can affect a sample's lead concentration. *See* Mitchell Article at PDF page 11. As evidence of this, multiple field studies have found highly variable lead concentrations in sequential drinking water samples from the same tap and across taps in a public water system using different corrosion control techniques. *Id.*

CLF supports the deadline in S.40 for school districts, supervisory unions, independent schools, and child care facilities to complete initial testing at all schools and early education child care facilities on or before January 1, 2020. **We recommend amending S.40 to require <u>annual</u> testing because of the inherent fluctuation of lead tests from the same tap over time (as described above).**

2. Health-based Action Level

The action level standard should be 1 ppb because this is a health-based standard. There is universal consensus among the medical community that there is no safe level of lead in the human body. This is why EPA established the maximum contaminant level goal for lead in drinking water at 0 ppb. VDH's Health Advisory Level for lead in drinking water is 1 ppb. This standard is consistent with the American Academy of Pediatrics recommendation.

[10] These states include: OH, RI, NY, IL, VA, MN, MD, CO, OR, CA, NH, WA, LA, TN, PA, and DC.

Achieving 1 ppb is technically feasible. Schools across Vermont are already achieving 1 ppb at many taps.[11] Additionally, as detailed in Dr. Molly Costanza-Robinson's testimony before the Senate Committee on Education on February 1, 2019, schools and child care facilities have a low-cost remedy (fixture replacement) available to meet the 1 ppb level.[12] Finally, facilities can install NSF-certified filters that, when maintained appropriately,[13] reliably achieve 1 ppb lead levels. A study conducted by EPA (and reviewed by the Agency for Toxic Substances and Disease Registry (ATSDR)) showed that NSF-certified filters achieve 1 ppb reliably even where lead levels exceeded 150 ppb. *See* EPA's *Flint, MI Filter Challenge Assessment*, attached. Of the 200 samples tested in this EPA study, 80 percent were non-detect for lead after filtration, and the average concentration was 0.3 ppb. *Id.*

CLF recommends amending S.40 to require action at 1 ppb. There is no justification for a less protective action level because 1 ppb is technically achievable and the economic, personal, and societal costs of lead exposure far outweigh the costs associated with action.

3. *Strong Notification Requirements to parents, guardians, and the Vermont Department of Health*

It is vital that parents, student guardians, and relevant state agencies are notified when testing for lead will occur, why testing is important, and that they are informed of all test results once sampling comes back from the laboratory, not just those samples that exceed the action level. Additionally, this same group should be notified when a remediation plan is being drafted and when it will be implemented. Furthermore, all sampling results (whether they are above the action level or not) should be shared with relevant agencies and made available to the public.

CLF supports the notification provisions in S.40, but recommends a minor amendment to clarify that parents, guardians, and VDH are notified of *all* sample results, not just those samples that exceed the action level. Notification of all sample results creates a more complete dataset for the state and the public to monitor this issue and discern any trends over time.

4. *Proactive planning to get the lead out of our plumbing and fixtures*

Where there is lead present in service lines and fixtures, there is a risk of contamination. Therefore, the most health-protective policy is to "get the lead out" of our schools and child care facilities. This involves proactively removing lead-bearing parts from schools' drinking water systems — from service lines to faucets and fixtures — and installing filters certified to remove

---

[11] For example, see Montpelier-Roxbury test results: https://sites.google.com/mpsvt.org/mrpscentraloffice/facilities?authuser=0; *see also* Testimony of Molly Costanza-Robinson, Ph.D. before the Senate Committee on Education, dated February 1, 2019, (stating that "Many outlets [in Vermont schools] already meet a 1 ppb action level.").

[12] Testimony of Molly Costanza-Robinson, Ph.D. ("Although data are limited, in every case (VDH pilot, scientific literature) fixture replacement reduced water lead to ≤3 ppb and often met a 1 ppb level.").

[13] *Id.* ("Filters that are approved for lead removal easily meet a 1 ppb action level. Filters require maintenance, however, (e.g., replacement, cleaning, disinfection) and are best-used in outlets that are used frequently.").

lead at every tap used for drinking or cooking. Schools and child care facilities should be required to develop and adopt plans of action to proactively get the lead out.

CLF recommends amending S.40 to require each school district, supervisory union, independent school, and child care facility to develop and adopt a plan of action to remove the risk of lead exposure by installing NSF-certified filters at all drinking water or cooking outlets within 18 months of the effective date of S.40, inventorying all lead-bearing parts within its water delivery system, and planning to eventually replace them. These reasonable planning requirements and action steps are the only way to fully eliminate the risk of lead poisoning and safeguard our children, teachers, and child care facility staff from serious health impacts.

5. State funding for testing and remediation

Funding for testing and remediation is essential in order to avoid serious equity concerns. Funding for remediation is also important because, without it, schools and early education child care facilities are more likely to take inadequate action to remedy lead poisoning risks. For example, one report noted that a school in Rhode Island ended up merely posting "do not drink" signs at taps that tested above the action level, or encouraging students to flush the taps for several minutes before consuming water, neither of which adequately eliminate the risk of exposure.[14]

CLF strongly supports the appropriations contained in S.40. Fully funding this initial round of testing is important because it removes any possible equity issues that arise when only those schools that can afford to do so undertake testing. All of our children, teachers, and child care facility staff must be equally protected from lead poisoning, no matter economic status. CLF also strongly supports the appropriation in S.40 towards cost share with facilities to implement remediation. Remediation requirements backed by funding increases the likelihood of schools promptly and effectively eliminating the hazards posed by lead in drinking water.

VI. Summary of CLF's Recommendations to Improve S.40

- Replace 3 ppb action level with health-based standard of 1 ppb
- Annual sampling requirement should specified in statute (i.e., do not leave it to rulemaking)
- All test results should be sent to parents and the public (i.e., not just those above action level)
- Rules should spell out "requirements" for testing (statute currently says "requirements or guidance") -- robust and consistent testing methodology is vital to successful detection and remediation
- Add requirement for school districts, supervisory unions, independent schools, and child care facilities to develop a "Get the Lead Out" plan of action to prevent elevated

[14] *See* U.S. Green Building Council Report, *Perspectives on State Legislation Concerning Lead Testing in School Drinking Water* at 18, available at https://www.usgbc.org/resources/perspectives-state-legislation-concerning-lead-testing-school-drinking-water.

lead levels in all water used for drinking or cooking through installation of filters, inventorying all lead-bearing parts within the drinking water system, and eventual removal of said components.

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

TO THE HONORABLE SENATE:

The Committee on Education to which was referred Senate Bill No. 40 entitled "An act relating to testing and remediation of lead in the drinking water of schools and child care facilities" respectfully reports that it has considered the same and recommends that the bill be amended by striking out all after the enacting clause and inserting in lieu thereof the following:

Sec. 1. 18 V.S.A. chapter 24A is added to read:

CHAPTER 24A. LEAD IN DRINKING WATER OF SCHOOLS AND CHILD CARE FACILITIES

§ 1241. PURPOSE

The purpose of this chapter is to require all school districts, supervisory unions, independent schools, and child care providers in Vermont to:

(1) test drinking water in their buildings and child care facilities for lead contamination; ~~and~~

(2) develop and implement an appropriate response or lead remediation plan when sampling indicates unsafe lead levels in drinking water at a school or child care facility~~.~~; and

(3) develop and adopt a plan of action to prevent elevated lead levels in all water used for drinking or cooking.

§ 1242. DEFINITIONS

As used in this chapter:

(1) "Action level" means ~~three~~ one part~~s~~ per billion (ppb) of lead.

(2) "Building" means any structure, facility, addition, or wing that may be occupied or used by any person~~children or students~~.

(3) "Child care provider" has the same meaning as in 33 V.S.A. § 3511.

(4) "Child care facility" or "facility" has the same meaning as in 33 V.S.A. § 3511.

(5) "Commissioner" means the Commissioner of Health.

(6) "Department" means the Department of Health.

(7) "Drinking water" has the same meaning as in 10 V.S.A. § 1671.

(8) "First-draw sample" means a 250 milliliter sample of drinking water that:

(A) has been standing in plumbing pipes at least eight hours;

(B) is collected without flushing the tap; and

(C) is conducted before a building or child care facility opens or is in use.

(9) "Flush sample" means a sample of drinking water from an outlet that:

(A) is taken from the outlet after the water has run for 30 seconds; and

(B) is collected ~~conducted~~ before a building or child care facility opens or is in use.

(10) "Independent school" has the same meaning as in 16 V.S.A. § 11.

(11) "Outlet" means a drinking water fixture currently or potentially used for consumption or cooking purposes, including a drinking fountain, ice machine, or a faucet.

(12) "Potable water" means water sufficient for consumption and free from impurities in amounts sufficient to cause disease or harmful physiological effects with the bacteriological, chemical, physical, or radiological quality conforming to applicable rules or standards adopted by the Agency of Natural Resources and the Department of Health.

(13) "School district" has the same meaning as in 16 V.S.A. § 11.

(14) "Supervisory union" has the same meaning as in 16 V.S.A. § 11.

§ 1243. TESTING OF DRINKING WATER

(a) Scope of testing.

(1) Each school district, supervisory union, or independent school in the State shall test drinking water in the buildings it owns, controls, or operates for lead contamination as required under this chapter.

(2) Each child care provider in the State shall test drinking water in a child care facility it owns, controls, or operates for lead contamination as required under this chapter.

(b) Initial sampling.

(1) On or before January 1, 2020, each school district, supervisory union, independent school, or child care provider in the State shall collect a

first-draw sample and a flush sample from each outlet in each building or facility it owns, controls, or operates. Sampling shall occur during the school year of a school district, supervisory union, or independent school.

(2) At least five days prior to sampling, the school district, supervisory union, independent school, or child care provider shall notify all staff and all parents or guardians of students directly in writing or by electronic means of:

(A) the scheduled sampling;

(B) the requirements for testing, why testing is required, and the potential health effects from exposure to lead in drinking water;

(C) information regarding how the school district, supervisory union, independent school, or child care provider shall provide notice of ~~the~~ all sample results to parents or guardians and the Department; and

(D) how the school district, supervisory union, independent school, or child care provider shall respond to a sample that exceeds the action level.

(3) The Department may adopt a schedule for the initial sampling by school districts, supervisory unions, independent schools, and child care providers.

(c) Continued sampling. After January 1, 2020, each school district, supervisory union, independent school, or child care provider in the State shall sample each outlet in each building or facility it owns, controls, or operates for

lead according to a schedule adopted by the Department by rule under section 1247 of this title.

(d) Interim methodology. Prior to adoption of the rules required under section 1247 of this title, sampling under this section shall be conducted according to a methodology established by the Department of Health, provided that the methodology shall be at least as stringent as the sampling methodology provided for under the U.S. Environmental Protection Agency's 3Ts for Reducing Lead in Drinking Water in Schools.

(e) Waiver.

(1) The Commissioner shall waive the requirement that a school district, supervisory union, independent school, or child care provider sample drinking water under this section upon a finding that the school district, supervisory union, independent school, or child care provider:

(A) completed sampling of all outlets in each building or facility it owns, controls, or operates in the calendar year preceding January 1, 2020;

(B) conducted sampling according to a methodology consistent with the Department methodology established under subsection (d) of this section; and

(C) implemented or scheduled remediation that ensures that drinking water from all outlets does not exceed the action level.

(2) A school district, supervisory union, independent school, or child care provider that receives a waiver under this subsection shall be eligible for assistance from the State for the costs of remediation that has been implemented or scheduled as a result of sampling conducted in the calendar year preceding January 1, 2020.

(f) Laboratory analysis. The analyses of drinking water samples required under this chapter shall be conducted by the Vermont Department of Health Laboratory or by a certified laboratory under contract to the Department.

§ 1243a. PREVENTING LEAD CONTAMINATION

(a) Within six months of the effective date of this Act, each school district, supervisory union, independent school, or child care facility, shall develop and adopt a plan of action to prevent elevated lead levels in all water used for drinking or cooking. Said plan of action shall include:

(1) installing and maintaining NSF certified filters at all faucets, fountains, or other outlets designated for drinking or cooking within 18 months of the effective date of this Act. A school district, supervisory union, independent school, or child care facility may, consistent with other obligations in law, remove some outlets from operation (instead of installing filters on those outlets), so long as every child has reasonable access to free, safe drinking water.

~~9~~20 (2) creating an inventory of lead-bearing parts within its water delivery system

including, but not limited to fixtures and plumbing with lead soldering, and a plan to replace same within two years of the effective date of this Act; and

(3) any other measures necessary to reduce lead contamination of water.

(b) Nothing in this section contravenes requirements for compliance with § 1244 or any other provisions of this Act.

§ 1244. RESPONSE TO ACTIONABLE LEVEL; NOTICE; REPORTING

If a sample of drinking water under section 1243 of this title indicates an exceedance of the action level at an outlet, the school district, supervisory union, independent school, or child care provider that owns, controls, or operates the building or facility in which the outlet is located shall conduct remediation to eliminate or reduce lead levels in the drinking water from the outlet. In conducting remediation, a school district, supervisory union, independent school, or child care provider shall strive to achieve the lowest level of lead possible in drinking water and, at a minimum, shall:

(1) prohibit use of an outlet that exceeds the action level until a lead remediation plan or other remediation approved by the Commissioner is implemented and:

(A) sampling indicates that lead levels from the outlet are below the action level; or

(B) the outlet is permanently removed and cannot be accessed by any person;

(2) after a lead remediation plan or other approved remediation is implemented, retest the outlet until results indicate that the lead levels are at or below the action level;

(3) provide occupants of the building or child care facility an adequate supply of potable water for drinking and cooking until remediation is performed;

(4) notify all staff and all parents or guardians of students directly of all~~the~~ test results, in writing or by electronic means, within 10 business days after receipt of the laboratory report; and

(5) submit lead remediation plans to the Department as they are completed.

§ 1245. RECORD KEEPING; PUBLIC NOTIFICATION; DATABASE

(a) Record keeping. The Department of Health shall retain all records of test results, laboratory analyses, lead remediation plans, and waiver requests for 10 years following the creation or acquisition of the record. Records produced or acquired by the Department under this chapter are public records subject to inspection or copying under the Public Records Act.

(b) Public notification. On or before March 1, 2020, the Commissioner shall publish on the Department website the data from testing under section 1243 of this title so that ~~the~~ all results of annual sampling are fully transparent and accessible to the public. The data published by the Department shall include all ~~a~~ sample results and a list of all buildings or facilities owned, controlled, or operated by a school district, supervisory union, independent school, or child care provider at which an outlet exceeded the action level within the previous two years of reported samples. The Commissioner shall publish all retesting data on the Department's website within two weeks of receipt of the relevant laboratory analysis. The Secretary of Education shall include a link on the Agency of Education website to the Department of Health website required under this subsection.

§ 1246. LEAD REMEDIATION PLAN; GUIDANCE

(a) Consultation. When a laboratory analysis of a sample of drinking water from an outlet at a building or facility owned, controlled, or operated by a school district, supervisory union, independent school, or child care provider exceeds the action level, the school district, supervisory union, independent school, or child care provider shall immediately consult with the Commissioner regarding the development of a lead remediation plan or other necessary response.

(b) Guidance; lead remediation plan. The Commissioner, after consultation with the Secretary of Natural Resources and the Secretary of Education, shall

issue guidance on development of a lead remediation plan by a school district, supervisory union, independent school, or child care provider. The guidance provided by the Commissioner shall reference the U.S. Environmental Protection Agency's 3Ts for Reducing Lead in Drinking Water in Schools.

§ 1247. RULEMAKING

(a) The Commissioner shall adopt rules under this chapter to achieve the purposes of this chapter. It is the intent of the General Assembly that the rules adopted under this section shall be no less stringent than the requirements of the U.S. Environmental Protection Agency's 3Ts for Reducing Lead in Drinking Water in Schools.

(b) On or before November 1, 2020, the Commissioner, with continuing consultation with the Secretary of Natural Resources and the Secretary of Education, shall adopt rules regarding the implementation of the requirements of this chapter. The rules shall include:

(1) requirements ~~or guidance~~ for taking samples of drinking water from outlets in a building or facility owned, controlled, or operated by a school district, supervisory union, independent school, or child care provider;

(2) a requirement to conduct, at a minimum, annual sampling, and the ~~(2)~~ frequency of ~~sampling required, including~~ additional sampling requirements when there is an exceedance of the action level at an outlet;

(3) requirements for implementation of a lead mitigation plan or other necessary response to a reported exceedance of the action level;

(4) conditions or criteria for the waiver of sampling required under this chapter; and

(5) any other requirements that the Commissioner deems necessary for the implementation of the requirements of this chapter.

§ 1248. ENFORCEMENT; PENALTIES

In addition to any other authority provided by law, the Commissioner of Health or a hearing officer designated by the Commissioner may, after notice and an opportunity for hearing, impose an administrative penalty of up to $500.00 for a violation of the requirements of this chapter. The hearing before the Commissioner shall be a contested case subject to the provisions of 3 V.S.A. chapter 25.

Sec. 2. 16 V.S.A. § 4001(6) is amended to read:

(6) "Education spending" means the amount of the school district budget, any assessment for a joint contract school, career technical center payments made on behalf of the district under subsection 1561(b) of this title, and any amount added to pay a deficit pursuant to 24 V.S.A. § 1523(b) that is paid for by the school district, but excluding any portion of the school budget paid for from any other sources such as endowments, parental fundraising, federal funds, nongovernmental grants, or other State funds such as special education funds paid under chapter 101 of this title.

* * *

(B) For purposes of calculating excess spending pursuant to 32 V.S.A. § 5401(12), "education spending" shall not include:

* * *

(xi) Costs incurred by a school district or supervisory union when sampling drinking water outlets, implementing lead remediation, or retesting drinking water outlets as required under 18 V.S.A. chapter 24A.

Sec. 3. APPROPRIATIONS; POSITIONS; SAMPLING OF DRINKING WATER OUTLETS IN SCHOOLS

(a) In addition to any other funds appropriated to the Department of Health (Department) in fiscal year 2019, the following amounts are appropriated to the Department in fiscal year 2019 for the purposes of implementing the requirements in 18 V.S.A. chapter 24A that a school district, supervisory union, independent school, or child care provider test drinking water outlets for lead:

(1) $1,350,000.00 for the costs of sampling drinking water outlets by school districts, supervisory unions, independent schools, or child care providers;

(2) $190,000.00 for the costs of retesting drinking water outlets by school districts, supervisory unions, independent schools, or child care providers;

(3) $700,000.00 to cost share with school districts, supervisory unions, independent schools, or child care providers the costs of implementing remediation.

(b) In addition to any other funds appropriated to the Agency of Natural Resources in fiscal year 2019, $125,000.00 is appropriated to the Agency in fiscal year 2019 to hire an environmental analyst to assist in remediation required under 18 V.S.A. chapter 24A.

(c) The establishment of the following new classified limited service positions is authorized in fiscal year 2019:

(1) In the Agency of Natural Resources – environmental analyst V.

(2) In the Department of Health – public health analyst.

Sec. 4. EFFECTIVE DATE

This act shall take effect on passage.

(Committee vote:_____)

_____

Senator _____

FOR THE COMMITTEE

Lead in Schools: Ensuring Drinking Water Safety

What's the Problem?

There is universal consensus among the scientific and medical community that there is no safe level of lead exposure. Lead is a potent neurotoxin that can cause serious and irreversible health consequences with even minimal exposure, including neurological, immunological, cardiovascular, renal, and/or reproductive and developmental effects. Children are most at risk, since their bodies absorb 40% of ingested lead compared to only 5% for adults.[1]

Because there is no safe level of lead in the body, the Environmental Protection Agency (EPA) set the maximum contaminant level goal for lead in drinking water at 0 ppb. Similarly, the American Academy of Pediatrics recommends that "state and local governments should take steps to ensure that water fountains in schools do not exceed water lead concentrations of 1 ppb."[2] Vermont's Department of Health set a Health Advisory of 1 ppb for lead in drinking water.

Approximately 20% of elevated blood lead levels in children are linked to contaminated drinking water,[3] making this an important exposure pathway to monitor and regulate. And yet, there is no requirement in Vermont for public water systems to test drinking water outlets at schools served by the system.[4] There is a requirement for child care facilities to test drinking water for lead, but it is woefully inadequate because it has an action level of 15 ppb, which is not a health-based standard, but rather a remediation standard based on the point at which lead begins to corrode plumbing materials. Testing is also not required frequently enough, and there is no notification requirement of sampling results.

A 2018 pilot program testing drinking water at 16 schools in Vermont revealed that school drinking water contamination is a widespread problem. All schools in the pilot had at least two taps where lead was detected above the Vermont Health Advisory Level of 1 ppb, regardless of building age or school size.[5] One had as many as 39 taps above this limit.

Senate Bill No. 40 – An act relating to testing and remediation of lead in the drinking water of schools and child care facilities

Fortunately, this is a problem we know how to solve. S.40 is a significant step forward in protecting our kids, teachers, and child care workers from lead exposure. If passed, it would require all Vermont schools and child care facilities to regularly test samples from all water outlets that could be used for drinking or cooking. If lead is detected above the set action level, the tap must be immediately shut off and promptly replaced or otherwise remediated. The schools must also keep a public record of testing, and report any violations to parents within 10 business days.

Recommendations to Strengthen S.40

CLF strongly supports S.40, with the following recommended changes

1. **Action level must be health-based.** S.40 should be amended to include an action level of 1 ppb, not 3 ppb. This action level is both necessary – given that there is no safe level of lead – and technically attainable.

2. **Annual sampling requirement should be specified in statute.** Annual testing is important because testing for lead at the tap to measure the risk of future lead exposure is inherently unreliable, and the circumstances under which samples are drawn can significantly affect the lead content of the sample.

3. **Preventative planning to 'Get the Lead Out' of plumbing and fixtures.** To minimize the harms of childhood lead poisoning, the risk from drinking water must be eliminated in the first place. Therefore, S.40 should be amended to include provisions for lead exposure *prevention,* in addition to remediation.

---

[1] *Lead and Children*, Dr. Alan R. Abelsohn and Dr. Margaret Sanborn (2010), available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2902938/ at 1.
[2] *Prevention of Childhood Lead Toxicity*, American Academy of Pediatrics' Council on Environmental Health (2016), available at http://pediatrics.aappublications.org/content/pediatrics/138/1/e20161493.full.pdf at 11.
[3] *Prevention of Childhood Lead Toxicity*, American Academy of Pediatrics' Council on Environmental Health (2016), available at http://pediatrics.aappublications.org/content/pediatrics/138/1/e20161493.full.pdf at 6.
[4] Under the Federal Lead and Copper Rule, public water systems are not required to test school outlets. As a result, the only schools or child care facilities that are federally required to test for lead are the small fraction of those that operate their own water systems.
[5] *Vermont Lead in School Drinking Water Testing Pilot Report,* VT Agency of Natural Resources (Sept. 2018), available at http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_HS_LeadSchoolWaterPilotReport.pdf.

UNCOVERING THE IMPACTS OF CHILDHOOD LEAD EXPOSURE

Neurological and behavioural effects are **irreversible**

No level of lead exposure is considered safe

Lead poisoning is **preventable**

100% of Vermont schools evaluated in a 2018 pilot study reported lead contamination in their drinking water above the 1 ppb health advisory.

ANY level of lead in drinking water causes adverse health impacts on children.

- Reduced **IQ**
- Shortened **attention span**
- Increased **anti-social behavior**
- **Underperfomance** in school
- **Anemia**
- **Hypertension**
- **Kidney damage**

We must act now to protect our children and school communities.