

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Education

BILL: SB 168

INTRODUCER: Senator Cruz and others

SUBJECT: Drinking Water in Public Schools

DATE: November 8, 2019

REVISED: _____

| | ANALYST | STAFF DIRECTOR | REFERENCE | ACTION |
|----|---------|----------------|-----------|--------------------|
| 1. | Bouck | Sikes | ED | Pre-meeting |
| 2. | | | AED | |
| 3. | | | AP | |

I. Summary:

SB 168 requires each school district to filter drinking water at each source for each district school built before 1986. Specifically, for such schools the bill requires each school district to:

- Install and maintain a filter that meets specified standards and capacity to reduce lead at each school water source.
- Post a conspicuous sign near each school non-drinking-water source warning that water from such source should not be used for human consumption or food preparation.
- Publish on the school district’s website information about filters and location for each drinking water source.

The bill provides a \$3 million appropriation to the Department of Education to implement the requirements of the bill.

The bill takes effect July 1, 2020.

II. Present Situation:

Lead is a common hazardous contaminant found in the plumbing systems of older homes, businesses and schools. Although rarely found in source water, lead can enter tap water through the corrosion of aging plumbing materials. The three main sources of lead in water found in schools include:¹

- Lead-containing service lines connected to public water systems, most often in schools built prior to 1950;
- Lead solder used in copper piping systems prior to 1986; and

¹ NSF, *Lead in School Water and Lead Plumbing Pipes*, <http://www.nsf.org/consumer-resources/water-quality/faucets-plumbing/lead-schools>, (last visited Oct. 24, 2019).

- Lead-containing brass or galvanized pipe and fittings, which includes many products manufactured prior to the mid-1990s.²

Lead is a neurotoxin that can accumulate in the body over time with long-lasting effects, particularly for children. Lead in a child's body can slow down growth and development, damage hearing and speech, and lead to learning disabilities. For adults, lead can have detrimental effects on cardiovascular, renal, and reproductive systems and can prompt memory loss. The concentration of lead, total amount consumed, and duration of exposure influence the severity of health effects.³ Lead in school drinking water is a concern because it is a daily source of water for over 50 million children enrolled in public schools.⁴

Federal Safe Water Requirements

The federal Safe Drinking Water Act (SDWA) was passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply.⁵ The SDWA authorizes the United States Environmental Protection Agency (EPA) to set standards for drinking water contaminants in public water systems.⁶ The SDWA applies to every public water system in the United States, which are regulated by the EPA under the Lead and Copper Rule (LCR),⁷ as required by the SDWA.⁸

² In 1986, Congress amended the Safe Drinking Water Act (SDWA), prohibiting the use of pipes, solder, or flux that were not "lead free" in public water systems or plumbing providing water for human consumption. At the time "lead free" was defined as solder and flux with no more than 0.2 percent lead and pipes with no more than 8 percent. In 1996 Congress further amended the SDWA, requiring plumbing fittings and fixtures to be in compliance with voluntary lead leaching standards. The amendments also prohibited the sale of any pipe, pipe or plumbing fitting or fixture that is not lead free. United States Environmental Protection Agency, *Use of Lead Free Pipes, Fittings, Fixtures, Solder and Flux for Drinking Water*, <https://www.epa.gov/dwstandardsregulations/use-lead-free-pipes-fittings-fixtures-solder-and-flux-drinking-water> (last visited Oct. 24, 2019).

³ United States Government Accountability Office, *Lead Testing of School Drinking Water Would Benefit from Improved Federal Guidance* (July 2018), available at <https://www.gao.gov/assets/700/692979.pdf>, at 5.

⁴ *Id.* at 1.

⁵ United States Environmental Protection Agency, *Understanding the Safe Drinking Water Act* (June 2004), available at <https://www.epa.gov/sites/production/files/2015-04/documents/epa816f04030.pdf>, at 1. The SDWA is administered through programs that establish standards and treatment requirements for public water supplies, finance drinking water infrastructure projects, promote water system compliance, and control the underground injection of fluids to protect underground sources of drinking water. Congressional Research Service, *Safe Drinking Water Act (SDWA): A Summary of the Act and Its Major Requirements* (Mar. 1, 2017), available at <https://fas.org/sgp/crs/misc/RL31243.pdf>, at 5.

⁶ United States Government Accountability Office, *Lead Testing of School Drinking Water Would Benefit from Improved Federal Guidance* (July 2018), available at <https://www.gao.gov/assets/700/692979.pdf>, at 5. For a given contaminant the act requires the EPA to first establish a maximum contaminant level goal, which is the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety. EPA must then set an enforceable maximum contaminant level as close to the maximum contaminant level goal as is feasible, or require water systems to use a treatment technique to prevent known or anticipated adverse effects on the health of persons to the extent feasible.

⁷ 40 C.F.R. Sections 141.80-141.91.

⁸ Pub. L. No. 93-523, 88 Stat. 1660 (1974). Under the Safe Drinking Water Act, the EPA is authorized to regulate contaminants in public drinking water systems. Since 1974, EPA has implemented its drinking water program under three separate legislative frameworks—first under the initial statute and subsequently under major amendments in 1986 and 1996. United States Government Accountability Office, *Lead Testing of School Drinking Water Would Benefit from Improved Federal Guidance* (July 2018), available at <https://www.gao.gov/assets/700/692979.pdf>, at 2.

In the LCR, the EPA established a maximum contaminant level⁹ goal of zero, concluding that there was no established safe level of lead exposure. However, the rule established an “action level” of 15 micrograms of lead per liter (15 parts-per-billion (ppb)) of water, a level the EPA believed was generally representative of what could be feasibly achieved at the tap.¹⁰ If more than 10 percent of tap water samples exceed the lead action level of 15 ppb, then water systems are required to take specified treatment actions.¹¹

Because the LCR regulates public water systems, it does not directly address individual schools that are served by a public water system. There is no federal law requiring testing of lead in drinking water for schools receiving water from a public water system.¹² States and local jurisdictions may establish their own voluntary or mandatory programs for testing drinking water in schools and child-care facilities.¹³

The most direct oversight of water systems is conducted by state drinking water programs. States can apply to the EPA for “primacy,” the authority to implement the SDWA within their jurisdictions, if they can show that they will adopt standards at least as stringent as the EPA’s and make sure water systems meet these standards. All states and territories, except Wyoming and the District of Columbia, have received primacy.¹⁴

Florida Safe Water Requirements

The “Florida Safe Drinking Water Act”¹⁵ (Act) establishes the Florida Department of Environmental Protection (department) as the lead-agency with primary responsibility for the Act, with support by the Department of Health and its units, including county health departments. The Act is intended to:¹⁶

- Implement the federal Safe Drinking Water Act.
- Encourage cooperation between federal, state, and local agencies, not only in their enforcement role, but also in their service and assistance roles to city and county elected bodies.
- Provide for safe drinking water at all times throughout the state, with due regard for economic factors and efficiency in government.

⁹ The maximum contaminant level goal is the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, allowing an adequate margin of safety.

¹⁰ United States Government Accountability Office, *Lead Testing of School Drinking Water Would Benefit from Improved Federal Guidance* (July 2018), available at <https://www.gao.gov/assets/700/692979.pdf>, at 6.

¹¹ United States Environmental Protection Agency, *Basic Information about Lead in Drinking Water*, <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water> (last visited Oct. 24, 2019).

¹² United States Government Accountability Office, *Lead Testing of School Drinking Water Would Benefit from Improved Federal Guidance* (July 2018), available at <https://www.gao.gov/assets/700/692979.pdf>, at 2.

¹³ United States Environmental Protection Agency, *3Ts for Reducing Lead in Drinking Water Toolkit*, <https://www.epa.gov/ground-water-and-drinking-water/3ts-reducing-lead-drinking-water-toolkit> (last visited Oct. 24, 2019).

¹⁴ United States Environmental Protection Agency, *Understanding the Safe Drinking Water Act* (June 2004), available at <https://www.epa.gov/sites/production/files/2015-04/documents/epa816f04030.pdf>, at 2.

¹⁵ Section 403.850, F.S. The Act includes ss. 403.850-403.891, F.S.

¹⁶ Section 403.851, F.S.

In Florida, lead is monitored by the LCR and state rules.¹⁷ The Inorganics Monitoring Rule¹⁸ requires specified public water systems¹⁹ to monitor for lead at each point of entry to its distribution system. This requires monitoring to occur after the water leaves the treatment plant, but before it reaches the water system's first customer.²⁰ The LCR also requires that public water systems notify the department that they have complied with their obligation to notify consumers of the results of lead and copper sampling.²¹

Florida law does not require schools to test or filter drinking water.²² However, Florida regulations do require that any school with an on-site potable water system must be in proper working order and comply with the Florida Safe Drinking Water Act, which requires sampling and testing of the water supply.²³

Florida School District Actions Relating to Lead in Water

Recent examples of Florida school districts testing for lead and taking remedial actions include the:

- Hillsborough County School District, which tested more than 1,780 individual drinking or cooking water sources, prioritizing older schools. Remediation actions include replacing the fixture, adding water filters, or other plumbing projects.²⁴
- Polk County School District, which implemented a testing program in 2016,²⁵ and prioritized testing for schools built before 1986. If results were above the action level, a correction plan was implemented, which included a flushing protocol with follow-up testing, bottled water, installation of NSF-approved lead contaminant filters, and new plumbing.²⁶

¹⁷ Florida Department of Environmental Protection, *Monitoring Lead and Copper in Florida Drinking Water*, <https://floridadep.gov/water/source-drinking-water/content/monitoring-lead-and-copper-florida-drinking-water> (last visited Oct. 24, 2019).

¹⁸ Rule 62-550.513, F.A.C.

¹⁹ Sections 403.852(3), (17), and (18). These include water systems that regularly serve at least 25 persons.

²⁰ Florida Department of Environmental Protection, *Monitoring Lead and Copper in Florida Drinking Water*, <https://floridadep.gov/water/source-drinking-water/content/monitoring-lead-and-copper-florida-drinking-water> (last visited Oct. 24, 2019).

²¹ *Id.*

²² Nationwide, an estimated 43 percent of school districts, serving 35 million students, tested for lead in school drinking water in 2016 or 2017, according to GAO's nationwide survey of school districts. An estimated 41 percent of school districts, serving 12 million students, had not tested for lead. GAO's survey showed that, among school districts that did test, an estimated 37 percent found elevated lead (lead at levels above their selected threshold for taking remedial action.). U.S. Government Accountability Office, *Lead Testing of School Drinking Water Would Benefit from Improved Federal Guidance*, <https://www.gao.gov/products/GAO-18-382> (last visited Oct. 24, 2019).

²³ Florida Department of Education, *State Requirements for Educational Facilities* (2014), available at <http://www.fldoe.org/core/fileparse.php/7738/urlt/srefrule14.pdf>, at 62.

²⁴ Hillsborough County Public Schools, *Water Testing FAQ*, <https://www.sdhc.k12.fl.us/doc/2012/maintenance/resources/watertesting-faq/> (last visited Oct. 24, 2019). The testing revealed 1.5 percent of fixtures required remediation. Florida Department of Health, *Florida Department of Health in Hillsborough County Applauds School District's Lead Testing Efforts*, <http://hillsborough.floridahealth.gov/newsroom/2018/08/lead-testing-efforts.html> (last visited Oct. 24, 2019).

²⁵ Pinellas County Schools, *Water Quality Assessment*, <https://www.pcsb.org/site/handlers/filedownload.ashx?moduleinstanceid=39444&dataid=51816&FileName=water-treatment-brochure-v8-marksandbleed.pdf>.

²⁶ Polk County Schools, *Water Quality Assessment*, <https://polkschoolsfl.com/leadinformationcenter/> (last visited Oct. 24, 2019).

Filtering Water for Lead

Point-of-use (POU) and point-of-entry (POE) devices are different types of filtration options. A POU device is installed at each outlet, while a POE device is installed where the water enters the building. Specifically:

- POU units are commercially available and can be effective in removing lead. There are a number of POU cartridge filter units available that effectively remove lead.²⁷ They can be relatively inexpensive (\$65 to \$250) or more expensive (\$250 to \$500)²⁸ and their effectiveness varies. Filters need routine maintenance (e.g., cartridge filter units need to be replaced periodically) to remain effective.²⁹
- POE devices are typically used by public water system under the SDWA, which are required to meet the federal and state regulations for drinking water, including additional water quality monitoring. In addition, POE devices are not effective in removing lead that comes from plumbing materials within the school.³⁰

The American National Standards Institute and NSF Standards

The American National Standards Institute (ANSI) is a private, non-profit organization that administers and coordinates the U.S. voluntary standards and conformity assessment system. Founded in 1918, the ANSI works in close collaboration with stakeholders from industry and government to identify and develop standards.³¹

The National Sanitation Foundation (NSF)³² is an independent, not-for-profit ANSI-accredited organization that facilitates development of consensus-based national standards for the safety, health and performance of food, water and consumer products. This includes developing standards for drinking water treatment products, including plumbing supplies, and testing these products to ensure their compliance with NSF and other consensus-based standards.³³

²⁷ Environmental Protection Agency, *3Ts: Training, Testing, Taking Action: Module 6: remediation and Establishing Routing Practices—Remediation Options* (Oct. 2018), available at https://www.epa.gov/sites/production/files/2018-09/documents/module_6_remediation_options_508.pdf, at 2.

²⁸ Alachua County Schools recently began installing water filters at all schools in the district. The school district installed Omnipure K5615_KK filters that are NSF/ANSI-53 rated, with a maximum life of one year. The cost of such installation for all schools was \$30,000, which compares to an estimated cost of \$300,000 to test each school individually for lead contaminants. The Gainesville Sun, *Alachua County schools install filters to remove lead* (Oct. 15, 2018), <https://www.gainesville.com/news/20181015/alachua-county-schools-install-filters-to-remove-lead> (last visited Oct. 24, 2019).

²⁹ Environmental Protection Agency, *3Ts: Training, Testing, Taking Action: Module 6: remediation and Establishing Routing Practices—Remediation Options* (Oct. 2018), available at https://www.epa.gov/sites/production/files/2018-09/documents/module_6_remediation_options_508.pdf, at 2.

³⁰ United States Environmental Protection Agency, *3Ts: Training, Testing, Taking Action, Module 6: Remediation and Establishing Routine Practices, Remediation Options* (Oct. 2018), available at https://www.epa.gov/sites/production/files/2018-09/documents/module_6_remediation_options_508.pdf, at 2.

³¹ American National Standards Institute, *What is ANSI? An Overview*, available at https://share.ansi.org/Shared%20Documents/News%20and%20Publications/Brochures/WhatIsANSI_brochure.pdf at 1.

³² NSF International was founded as the National Sanitation Foundation in 1944, but changed its name to NSF International in 1990 with expansion of services beyond sanitation and into global markets. The letters NSF do not represent any specific words today. NSF, *Mission, Values, and History*, <http://www.nsf.org/about-nsf/mission-values-history> (last visited Oct. 24, 2019).

³³ NSF, *Lead in School Water and Lead Plumbing Pipes*, <http://www.nsf.org/consumer-resources/water-quality/faucets-plumbing/lead-schools> (last visited Oct. 24, 2019).

In the 1970s, NSF led the development of standards for materials and products that treat or come in contact with drinking water, including water filters used in homes and businesses. While no federal regulations exist for residential water treatment filters, voluntary national standards and NSF International protocols have been developed that establish minimum requirements for the safety and performance of these products to treat drinking water. Most standards do not include filtering lead from drinking water, but apply to filters targeting other specified contaminants or aesthetic impurities, such as chlorine, bacteria, viruses, pharmaceuticals, microcystin, chemicals, or iodine.³⁴

NSF Standard 53 (NSF-53) *Drinking Water Treatment Units - Health Effects* is the nationally recognized standard for evaluating and certifying drinking water treatment systems for the reduction of contaminants.³⁵ NSF-53 establishes the minimum requirements for the certification of POU or POE filtration systems designed to reduce specific health-related contaminants, including lead, that may be present in drinking water.³⁶

III. Effect of Proposed Changes:

SB 168 requires each school district to filter drinking water at each source for each district school built before 1986. Specifically, for such schools the bill requires each school district to:

- Install and maintain a filter that meets specified standards and capacity to reduce lead at each school water source.
- Post a conspicuous sign near each school non-drinking-water source warning that water from such source should not be used for human consumption or food preparation.
- Publish on the school district’s website information about filters and location for each drinking water source.

The bill creates s. 1013.29, F.S., to control or eliminate lead in school water sources to prevent the harmful effects of lead poisoning. The bill requires, subject to appropriation by the legislature, that for each district school built before 1986, the school district must:

- Install a point of use filter³⁷ that reduces lead content in drinking water on each drinking water source³⁸ and maintain each filter in a manner consistent with the manufacturer’s recommendations. In addition, the filter:
 - Must be installed by school district staff.

³⁴ NSF, *NSF Standards for Water Treatment Systems*, <http://www.nsf.org/consumer-resources/water-quality/water-filters-testing-treatment/standards-water-treatment-systems> (last visited Oct. 24, 2019).

³⁵ NSF, *Certified Product Listings for Lead Reduction*, http://info.nsf.org/Certified/DWTU/listings_leadreduction.asp?ProductFunction=053|Lead+Reduction&ProductFunction=058|Lead+Reduction&ProductType:=&submit2=Search (last visited Oct. 24, 2019).

³⁶ NSF, *Residential Drinking Water Treatment Standards*, <http://www.nsf.org/services/by-industry/water-wastewater/residential-water-treatment/residential-drinking-water-treatment-standards> (last visited Oct. 24, 2019).

NSF/ANSI Standard 61 (NSF-61) *Drinking Water System Components – Health Effects* relates to plumbing products and water treatment and establishes requirements for the control of equipment that may introduce lead into drinking water because of the materials used in the product. NSF, *Lead in School Water and Lead Plumbing Pipes*, <http://www.nsf.org/consumer-resources/water-quality/faucets-plumbing/lead-schools> (last visited Oct. 24, 2019). However, this standard does not include POU devices. NSF, *NSF/ANSI-61-2016*, available at https://www.nsf.org/newsroom_pdf/NSF-ANSI_61_watemarked.pdf, at 1.

³⁷ The bill defines a “point of use filter” or “filter” as a water filtration system that treats water at a single tap.

³⁸ The bill defines a “drinking water source” as any water source used for drinking, food preparation, or cooking, and includes water fountains, ice makers, and kitchen sinks.

- Must meet the National Sanitation Foundation/American National Standards Institute Standard 53: Drinking Water Treatment Units-Health Effects.
- Must have a certified capacity of 7,900 gallons and, at a minimum, must be changed or replaced annually.
- Post a conspicuous sign near each school water source that is not a drinking water source. The sign must include wording and an image that clearly communicate that water from the source should not be used for human consumption, food preparation, or cooking.
- Publish on the school district's website a list of drinking water sources at such schools. At a minimum, the list must include for each drinking water source all of the following:
 - The date on which the current filter was installed.
 - The date on which the current filter is scheduled to be replaced.
 - The location of each water source.
 - Any actions necessary to comply with the requirements of the law which have been completed or are pending.

The bill authorizes the Department of Education (DOE) to adopt rules to implement these requirements.

The bill appropriates, for the 2020-2021 fiscal year, \$3 million in recurring general revenue funds to the DOE to implement these requirements. In addition, each school district may request additional funds for the purpose of compensating school district staff for the installation or replacement of filters. It is unclear if such funds are in addition to the \$3 million, or from funds remaining from an initial allotment of appropriated funds.

The bill requires point-of-use water filtration devices on specified drinking water sources, but does not amend the Florida Safe Drinking Water Act to require a school district to have water at district schools tested for lead. The installation of such filters may lower the risk of students and school personnel ingesting lead through drinking water. The bill may also increase public awareness of the risks of lead in drinking water, specifically in schools.

The bill takes effect July 1, 2020.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

Vendors that provide water filters, filter replacements, and signage may realize additional revenue from school districts in implementing the requirements of the bill.³⁹

C. Government Sector Impact:

SB 168 appropriates \$3 million in recurring general revenue funds to the Department of Education (DOE) to implement the provisions of the bill.

According to the DOE,⁴⁰ there are 1,746 public schools in the state built prior to 1987, with a total of 1,124,204 student stations. Florida Building Codes require one water fountain for every 100 occupants or a fraction thereof. The total occupancy of 1,124,204 will necessitate the installation of 11,242 water filters. FISH also lists 2,656 kitchens in these schools. These include school dormitory and voc-tech kitchens.⁴¹ If these kitchens have an average of five water sources per kitchen, 10,624 water filters would be required.

The estimated cost for each new water filter and installation is \$323.20. Using this information, the DOE estimates that the costs for the initial installation of water filters and regular replacement of filters will be:

Initial cost for filter installation:

| | | |
|--|---|-------------------------------|
| Number of Drinking Fountains 11,242 | New Filter and Installation \$323.20 | Installed Cost \$3,633,414 |
| Number of Kitchen Fixtures 13,280 | New Filter and Installation \$323.20 | Installed Cost \$4,292,096 |

³⁹ Florida Department of Education, *2020 Agency Analysis of SB 168* (Sept. 9, 2019), at 5.

⁴⁰ *Id.* at 4.

⁴¹ School dormitory facilities are primarily at the Florida School for the Deaf and the Blind, but residential facilities make up less than 1 percent of the affected facilities. Career centers operated by district school boards are included in the number of public schools built prior to 1987. Email, Florida Department of Education (Nov. 5, 2019).

The total estimated filter installation cost for traditional public schools is \$7,925,510.

Recurring costs for filter replacements:

| | | | |
|--|---|-----------------------|--|
| Number of Drinking Fountains 11,242 | Filter Replacement and Installation \$129.25 | Changes Per Year 1 | Annual Replacement Cost \$1,453,028 |
| Number of Kitchen Filters 10,624 | Filter Replacement and Installation \$129.25 | Changes Per Year 4 | Annual Replacement Cost \$5,492,608 |
| Number of Ice Maker Filters 2,656 | Filter Replacement and Installation \$129.25 | Changes Per Year 2 | Annual Replacement Cost \$686,576 |

The total estimated annual recurring cost for traditional public schools is \$7,632,212.

The DOE does not track the date of construction for charter school buildings. Therefore, the costs of new filter installation and annual filter replacements for charter schools are indeterminable.⁴² The bill does not specify if charter schools are included in the requirements regarding filtering, signage, or publishing information on schools' websites.

The cost to each school district to install signage at each school water source that is not a drinking water source and for development and maintenance of a website of drinking water sources is indeterminate.

VI. Technical Deficiencies:

The Department of Education is not authorized to adopt rules. The State Board of Education is the chief implementing and coordinating body of public education in Florida, and has the authority to adopt rules to implement provisions of law for the improvement of the state system of K-20 public education except for the State University System.⁴³

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill creates section 1013.29 of the Florida Statutes.
This bill creates an unnumbered section of law.

⁴² Florida Department of Education, *2020 Agency Analysis of SB 168* (Sept. 9, 2019), at 5.

⁴³ Art. IX, s. 2, Fla. Const. and s. 1001.02(1), F.S..

IX. Additional Information:

- A. **Committee Substitute – Statement of Changes:**
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

- B. **Amendments:**

None.

This Senate Bill Analysis does not reflect the intent or official position of the bill's introducer or the Florida Senate.
