

**APLD MD Testimony 2.23.23[1].pdf**

Uploaded by: Hung Cheung

Position: FAV



## Alliance to Prevent Legionnaires' Disease

Alliance to Prevent Legionnaires' Disease, Inc.  
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### Testimony before the Maryland Senate Committee on Education, Energy and the Environment In Support of Senate Bill 512, Sponsored by Senator Lam February 23, 2023

Thank you for the opportunity to submit testimony in support of Senate Bill 512. My name is Dr. Hung Cheung. I am a board-certified physician in preventative and internal medicine, professor at the University of Pennsylvania Pearlman School of Medicine and faculty at The Johns Hopkins Bloomberg School of Public Health. I am a former Medical Director for the State of Maryland, a Maryland resident and the owner of Cogency, an organization which specializes in investigation and response to waterborne disease cases and outbreaks.

I also serve on the Board of the Alliance to Prevent Legionnaires' Disease, a national non-profit public health advocacy group dedicated to reducing the occurrence of Legionnaires' disease by promoting public research, education, best practices for water management, and advocating for comprehensive policies to combat and investigate this preventable disease.

We are very pleased to testify before the Committee with strong support for SB 512 from Senator Lam. This important legislation is focused on the prevention of Legionnaires' disease through root cause-oriented policies focused on water quality in our public water systems including:

- A provision to prevent the growth and proliferation of *legionella* bacteria, which causes this disease by requiring most water suppliers to maintain a minimum disinfectant residual of free chlorine of 0.5 mg/L in all active parts of the system so the water is of the same quality at the start of the system as when it enters all homes, facilities and public places for human use.
- A provision to require water suppliers to notify water users when there may be elevated risks in their communities due to planned and unplanned water system events or disruptions, as defined in the bill; and
- Provisions to promote increased public education and research around Legionnaires' disease.

To understand the focus of this legislation, it is important to establish an understanding of Legionnaires' disease. It is a waterborne illness caused by *legionella* bacteria which is readily found in source water like lakes and rivers that supply our public water system and provide our homes and public places with the water we drink, use to shower and for various other purposes. Like COVID-19, at risk populations tend to be those who are elderly, immune compromised, or have respiratory illness or comorbidities.

According to the Centers for Disease Control and Prevention (CDC), 96% of Legionnaires' disease cases are sporadic and isolated from larger outbreaks. EPA studies and one recently completed in the state of New Jersey by the Department of Health have found that approximately 50% of all household taps tested positive for *legionella*. The leading cause of Legionnaires' disease is from municipally supplied drinking water, according to the CDC, we are particularly concerned about home-based exposure given the daily water use and intense exposure to water in our homes with the average family of four using 300 gallons per day, and the fact that some of the most susceptible individuals are those who are often homebound.

A recent review of available literature of sporadic cases identified "definite" and "probable" sources of sporadic cases as including potable water from single family homes and apartment buildings, potable water used in humidifiers, home spas, and potable water from other sites (i.e. dental office, etc.) [Environmental sources of community-acquired legionnaires' disease: A review](#) (2018 Orkis et al.)

Given the fact that *legionella* exists in the source water and public water distribution system, it is far more effective to properly manage, treat and monitor water in the public distribution system than it is to try to address these pathogens after they have already entered our homes and public places, "seeded" from the public water system.

In a letter to the US Environmental Protection Agency sent in 2016, R. Ellingboe, Supervisor of the Drinking Water Protections Section of the Environmental Health Division at Minnesota Department of Health warned, "*Nationally, we continue to see an increase in Legionella disease outbreaks... from exposures within premise plumbing. Are water systems providing a continual "seeding" of Legionella bacteria and the bacteria getting into premise plumbing...?*"

Efforts to date have been almost exclusively focused on "downstream" interventions after the bacteria has already infected premise plumbing. Yet this has not proven to be effective as cases continue to increase. In fact, over the last decade Legionnaires' cases in the United States have increased nearly five-fold.

Instead, we need meaningful "upstream" water management to improve the quality of the water delivered for home use through proper monitoring, management and response. This can be done by treating water with disinfectant at the water treatment facility and throughout the system to kill *legionella* bacteria and ensure there is sufficient residual disinfectant throughout the water distribution system so that it is continually disinfected *before* it enters our homes, facilities and public places. Recent outbreaks around the country like in Flint, Michigan, Quincy, Illinois and Saratoga Springs, NY demonstrate that systemic issues and poor management directly impact rates of Legionnaires' disease.

Further, in 2016 a CDC [Morbidity and Mortality \(MMWR\) Weekly Report](#) found that 35% of the outbreaks they investigated were attributed to unmanaged external changes including nearby construction and problems with water mains and 70% of investigations reported inadequate water disinfectant levels. Such external changes or system upsets like construction, water main breaks, water treatment changes, heavy rainfall and others can disrupt *legionella* bacteria stored in the biofilm of public water distribution system piping and send the bacteria downstream into

homes and public places. It is important for such disruption events to be better monitored and for notification to given to surrounding communities so they are aware of increased risks. This is particularly important for those most at-risk of contracting the disease.

Also of note, when increasing its minimal residual disinfectant level in 2016, the Pennsylvania Environmental Review Board stated, *“Maintenance of an adequate disinfectant residual (treatment) throughout the water distribution system plays a key role in controlling the growth of pathogens and biofilms and is a treatment technique that serve as one of the final barriers to protect public health. Lack of an adequate residual may increase the likelihood that disease-causing organisms such as E. Coli and Legionella are present.”* [Disinfection Requirements Rule](#), 2/20/16

These findings and statements support the approach taken in this bill. This approach will not only help to mitigate Legionnaires’ outbreaks, but all cases linked to the drinking water including the 96% of cases that are single and sporadic in nature (not associated with an outbreak).

In sum, let me emphasize that water borne disease is a sign or symptom of poor water quality, which is the root cause of illnesses. Accordingly, we are very supportive of Senate Bill 512 in that it takes a root-cause oriented approach to preventing Legionnaires’ disease, modeled after effective policies that have been put in place in other states like Illinois and Louisiana, and which follows the latest science and data around the role of the public water distribution system in introducing *legionella* in our homes, facilities and public places.

We applaud Maryland for taking a leadership role in pursuing state legislation to effectively reduce cases associated with this serious waterborne disease through improved water quality management. We look forward to continuing to work with you to achieve its enactment this year.

**SB 512 - UNF - MML.pdf**

Uploaded by: Angelica Bailey

Position: UNF



Maryland Municipal League  
*The Association of Maryland's Cities and Towns*

T E S T I M O N Y

February 23, 2023

**Committee:** Education, Energy, and the Environment

**Bill:** SB 512 – Drinking Water - Legionella Pneumophila Bacterium - Minimizing Growth and Transmission

**Position:** Oppose

**Reason for Position:**

The Maryland Municipal League opposes SB 512, which creates onerous and expensive requirements for water suppliers, many of which include municipalities.

Under this measure, a municipal water supplier would be required to: maintain a detectable residual disinfectant level of chlorine in the water distribution system; conduct sampling and analysis of residual disinfectant concentrations to determine the residual disinfectant level of chlorine at all points in the distribution system at frequent and regular intervals. The bill also establishes onerous notice, sampling, and analysis requirements that apply when water distribution system disruptions occur, including notifying the public no less than 4 hours after a contamination occurs.

Many of these requirements are redundant. MDE is already responsible for ensuring that the water quality and quantity at all public water systems meet the needs of the public and are in compliance with federal and State regulations. Public water systems are also required to sample and monitor for a variety of contaminants on a routine basis, and to notify relevant parties when the water exceeds concentration levels of an unregulated contaminant. Expansions of current law, like the notice requirement, are onerous and unrealistic.

Under this measure, a water supplier must provide notice no later than four hours after a disruption and include details about the disruption, identification of the specific homes that are included, and how customers can protect themselves. This is valuable information but identifying every single home that is affected in a public notice is burdensome; further, gathering all of this information and synthesizing it for public distribution in under four hours is unrealistic and an inappropriate use of limited municipal resources, especially in a time-sensitive situation.

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410-268-5514 | 800-492-7121 | FAX: 410-268-7004 | [www.md-municipal.org](http://www.md-municipal.org)

For these reasons, the League respectfully requests that this committee provide SB 512 with an unfavorable report.

**FOR MORE INFORMATION CONTACT:**

Theresa Kuhns

Chief Executive Officer

Angelica Bailey Thupari, Esq.

Director, Advocacy & Public Affairs

Bill Jorch

Director, Public Policy

Justin Fiore

Deputy Director, Advocacy & Public Affairs

**SB0512-EEE\_MACo\_OPP.pdf**

Uploaded by: Dominic Butchko

Position: UNF





## Senate Bill 512

### *Drinking Water - Legionella Pneumophila Bacterium - Minimizing Growth and Transmission*

MACo Position: **OPPOSE**

To: Education, Energy, and the Environment  
Committee

Date: February 23, 2023

From: Dominic J. Butchko

The Maryland Association of Counties (MACo) **OPPOSES** SB 512. This bill would impose an arbitrary and unrealistic mandate on county governments that operate public water systems. Ultimately, this bill ignores already established best practices and would add significant delays to planned projects, and new costs onto system users.

No local leaders want unsafe water for their communities. The specific means and dictates of SB 512 are at the heart of county concerns, not the uniting goal to deliver safe public utilities. Local governments appropriately manage most water systems and strive to provide the safest service to the general public. They have managed public water systems and have accounted for health and safety successfully – and in many cases, have been far ahead of the State’s requirements.

SB 512 would impose an arbitrary and unrealistic mandate on local governments. Under the bill, counties would be required to notify the public and test for certain water contaminants at maximum four hours after becoming aware of a disruption in a water system. This timeline places an unnecessary and unrealistic expectation on public works staff who should first prioritize resolving the disruption. Compliance with the bill’s lengthy list of requirements would surely add material costs to ratepayers everywhere.

Furthermore, this bill also imposes a minimum thirty-day notification window for any planned disruption to water service. Arbitrary hold times such as this only serve to delay projects that are critical in nature and add unnecessary extra expense.

While counties appropriately bear the burden of water infrastructure safety and welcome partnering with the State on these important goals, SB 512 prescribes an arbitrary and unrealistic approach. This legislation ignores already existing best practices for containment, notification, and testing. For these reasons, MACo **OPPOSES** SB 512 and urges an **UNFAVORABLE** report.

**SB 512, OPP, FCG - DWSU, LS23.pdf**

Uploaded by: Victoria Venable

Position: UNF



# FREDERICK COUNTY GOVERNMENT

## DIVISION OF WATER AND SEWER UTILITIES

Jessica Fitzwater  
County Executive

Mark A. Schweitzer, Director

### SB 512 – LEGIONELLA PNEUMOPHILA BACTERIUM – MINIMIZING GROWTH AND TRANSMISSION

**DATE:** February 23, 2023  
**COMMITTEE:** Education, Energy, and the Environment  
**POSITION:** Oppose  
**FROM:** Mark A. Schweitzer, Director, Division of Water and Sewer Utilities,  
Frederick County Government

Thank you for your consideration of SB 512 – Legionella Pneumophila Bacterium – Minimizing Growth and Transmission. As the Director of the Division of Water and Sewer Utilities in Frederick County, I urge the committee to give SB 512 an UNFAVORABLE report.

SB 512 requires public water systems to raise the minimum level of residual disinfectant to at least 0.5 milligrams per liter of chlorine and to conduct certain sampling and analysis for chlorine residual at frequent and regular intervals. In addition, SB 512 requires water utilities to provide notice of water distribution system disruptions and to perform additional testing for both chlorine residual and *Legionella pneumophila* bacterium.

Frederick County is concerned about the possible impacts of this bill to our customers and to our operations due to impractical notification requirements and testing requirements that are not feasible for local governments. Frederick County currently operates thirteen water systems with a total of nearly thirty-thousand customer accounts. Smaller utilities do not have sufficient off-hours staffing and infrastructure to provide the required public notice within 4 hours of unplanned disruptions, which may occur after-hours, such as an overnight water main break. Likewise, it may not be practical or prudent to provide 30-day advance notice of planned work that may have disruptions. In many cases, even planned work that causes disruptions cannot be delayed 30 days. Furthermore, residents may not recall the notice of planned disruption with 30-day advance notice.

Chlorine residual minimums have already been established by EPA and requiring utilities to maintain a higher minimum 0.5 mg/L chlorine residual throughout the distribution system will impact a utility's ability to manage disinfection byproduct levels in the distribution system.

The scale and frequency of the testing for Legionella and chlorine residual is not well defined making it difficult to determine costs related to additional staffing and laboratory costs. Although chlorine residual monitoring is currently done, it is not clear if that would satisfy the requirements of SB 512. Regardless, any additional testing will result in a net increase of operating costs.

Thank you for your consideration of SB 512. On behalf of Frederick County Government, I urge a UNFAVORABLE report.

Sincerely,

Mark A. Schweitzer  
Director, Division of Water and Sewer Utilities, Frederick County Government  
Email: [MSchweitzer@FrederickCountyMD.gov](mailto:MSchweitzer@FrederickCountyMD.gov)  
Phone: 301-600-2296

**MAMWA Ltr SB 512.pdf**

Uploaded by: Lisa Ochsenhirt

Position: INFO



## Maryland Association of Municipal Wastewater Agencies, Inc.

Washington Suburban Sanitary Commission

14501 Sweitzer Lane, 7<sup>th</sup> Floor

Laurel, MD 20707

Tel: 301-206-7008

### MEMBER AGENCIES

February 22, 2023

Allegany County  
Anne Arundel County  
City of Baltimore  
Baltimore County  
Town of Berlin  
Cecil County  
Charles County  
City of Cumberland  
D.C. Water  
Frederick County  
City of Hagerstown  
Harford County  
City of Havre de Grace  
Howard County  
Ocean City  
Pocomoke City  
Queen Anne's County  
City of Salisbury  
Somerset County Sanitary District  
St. Mary's Metro. Comm.  
Washington County  
WSSC Water

The Honorable Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
2 West, Miller Senate Office Building  
Annapolis, MD 21401

**Re: SB 512 (Drinking Water – Legionella Pneumophila Bacterium – Minimizing Growth and Transmission)**

Dear Chairman Feldman:

On behalf of the Maryland Association of Municipal Wastewater Agencies (MAMWA), I am writing to express concerns regarding SB 512, which would require that public water systems maintain a certain level of residual disinfectant (0.5 milligrams per liter of chlorine), sample for residual concentrations "at all points in the distribution system," and provide public notice for planned and unplanned disruptions. MAMWA is a statewide association of local governments and wastewater treatment agencies that serve approximately 95% of the State's sewered population. Many Members also operate public water systems.

### CONSULTANT MEMBERS

Black & Veatch  
GHD Inc.  
Greeley and Hansen Engineers  
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MAMWA is not sure that the bill will have the desired result. Public health is obviously the most important part of operating a public water system but increasing chlorine residuals leaving the water plant will likely not provide additional opportunities for public health protection. Legionella often occurs when chlorine residual is lost in privately owned buildings, like hospitals, long-term care facilities, and hotels, with poor building management and/or poor plumbing design. Water utilities have no control over the plumbing in private buildings. Respectfully, to address legionella control, we should be looking more broadly at best management practices, including building management, building and energy efficiency codes, and plumbing infrastructure upgrades.

### GENERAL COUNSEL

AquaLaw PLC

SB 512 would also increase the risk of higher levels of disinfection byproducts (DBPs). Chlorine reacts with naturally present organic materials during water treatment to form DBPs, including trihalomethanes and haloacetic acids. Both are hazardous chemicals regulated under the United States Environmental Protection Agency's (EPA's) Safe Drinking Water Act. MAMWA urges the Committee to consider the potential for increased DBP formation of both regulated and unregulated chemicals throughout the distribution system if water utilities are required to increase residual chlorine levels.

MAMWA also questions requiring notifications for all customers for planned disruptions (like minor maintenance in one part of the service area, even on the sewer system). This would not only create a significant burden on public water systems, but the messages would likely

MAMWA Letter re Senate Bill 512

February 22, 2023

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be lost, as customers would have to field numerous public notices that in many cases do not even impact their neighborhood.

Lastly, regarding the requirement for sampling within four hours if there is a water distribution system disruption that may result in increased levels of legionella pneumophila bacterium in the distribution system, it seems excessive to require sampling for a disruption that is as common and normal as making an operational change at the plant (“changes to chemical treatments or disinfectants” is a part of the definition of “planned disruption” in the bill). The mandate puts a public water supplier in the unenviable position of having to either sample for legionella every time it makes this kind of change (and within four hours) or be questioned after the fact if it does not.

Please feel free to contact me with any questions at [Lisa@AquaLaw.com](mailto:Lisa@AquaLaw.com) or 804-716-9021.

Sincerely,



Lisa M. Ochsenhirt  
MAMWA Deputy General Counsel

cc: Senate Education, Energy, and the Environment Committee Members, SB 512 Sponsor

**SB0512 LOI.docx.pdf**

Uploaded by: Tyler Abbott

Position: INFO



February 23, 2023

The Honorable Brian J. Feldman  
Senate Education, Energy, and the Environment Committee  
Miller Senate Building, 2 West  
Annapolis, Maryland 21401

**Re: Senate Bill 512 – Drinking Water - Legionella Pneumophila Bacterium - Minimizing Growth and Transmission**

Dear Chair Feldman and Members of the Committee:

The Maryland Department of the Environment (MDE or Department) has reviewed Senate Bill 512 and would like to share some information. MDE has met with bill sponsor regarding our concerns and working to provide amendments.

SB 512 would require a minimum concentration of at least 0.5 milligrams per liter (mg/l) of chlorine in a drinking water distribution system, require suppliers of water to provide certain notifications relating to planned and unplanned disruptions, and require the Department to compile a best practices guide relating to legionella pneumophila bacteria (legionella). SB 512 would also establish a special fund relating to legionella.

SB 512 is in direct conflict with the Federal Safe Drinking Water Act- Disinfection Byproducts Rule. Federal law establishes maximum residual disinfectant levels (“MRDLs”) for chemical disinfectants. The MRDL for chlorine and chloramines (another type of chemical disinfectant) is based on “the running annual average of monthly averages of samples taken in the distribution system, computed quarterly,” which must be “less than or equal to the MRDL.” The MRDL for chlorine is 4.0 mg/l, although suppliers of water may temporarily increase residual disinfectant levels of chlorine or chloramine “to address specific microbiological contamination problems . . . such as distribution line breaks, storm runoff events, source water contamination, or cross-connections.” Id.; c.f., 40 CFR § 141.65(a). The MRDL reduces the breakdown of chemical disinfectants in the distribution system into disinfection byproducts (“DBPs”), which can cause cancer, nervous system problems, and other negative health effects in very small quantities. The bill prescribes a level of “at least 0.5” mg/l for chlorine disinfection residual. The Department is concerned that a chlorine level of 0.5 mg/l could still cause DBPs to form in the distribution system at higher levels that cause increased violations of the DBP MCLs and endanger public health. This requirement would be especially impactful on the state's largest systems (Baltimore City and WSSC). These large systems already struggle to balance maintaining a detectable chlorine residual in the distribution system while staying in compliance with the maximum DBP levels. The Department recommends a minimum residual chlorine level of 0.2 mg/l in the distribution system to strike an appropriate balance between disinfection and formation of DBPs.

SB 512 also implicitly mandates the use of chlorine as opposed to other, accepted chemical disinfectants and the bill makes repeated reference to chlorine as a required disinfectant in the water supply. However, not all public water systems that disinfect use chlorine. Additionally, nearly 1,000 water systems do not presently disinfect; these systems would be required to install chlorine-based disinfection. The Safe Drinking Water Act recognizes at least three (3) types of appropriate chemical disinfectants, including chlorine, chloramines, and

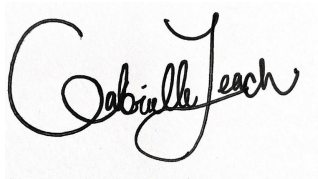


chlorine dioxide. Various public water systems in the State of Maryland use these approved disinfectants in their water supply. SB 512 would effectively require these public water systems to switch to chlorine disinfection by requiring a residual disinfectant level of chlorine. This switch could be expensive and unnecessary for public water systems that use another form of approved chemical disinfection with no corresponding benefit to public health.

Additionally, the primary issue with legionella is not introduction via an external source into the distribution system, but due favorable conditions in private plumbing systems. Such a treatment in the external distribution system may not prevent the growth of legionella in a private hot water system inside a building.

Thank you for considering the Department's information regarding this legislation. We will continue to monitor SB 512 during the Committee's deliberations, and I am available to answer any questions you may have. Please feel free to contact me at 410-453-3235 or by e-mail at [Gabrielle.Leach@maryland.gov](mailto:Gabrielle.Leach@maryland.gov).

Sincerely,

A handwritten signature in black ink that reads "Gabrielle Leach". The signature is written in a cursive style with a large, stylized 'G' at the beginning.

Gabrielle Leach  
Deputy Director  
Legislative and Intergovernmental Affairs

Cc: The Honorable Clarence Lam