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January 25, 2022

The Honorable Kumar Barve, Chair
The Honorable Dana Stein, Vice Chair
House Environment & Transportation Committee
Room 251 House Office Building
6 Bladen Street
Annapolis, MD 21401

Re: HB 248 - Legionnaires' Disease Prevention Act

Dear Chairman Barve, Vice Chair Stein and Distinguished Committee Members:

My name is Mark LeChevallier. In 2018, I retired as Vice President and Chief Environmental Officer for American Water – the parent company to Maryland American Water Company. In that position, I was ultimately responsible for the drinking water quality, environmental compliance, and environmental stewardship for 15 million customers across the company, including 20,000 people in the Bel Air area. In my retirement I continue to advocate and consult in activities that promote safe drinking water. I currently served on the USEPA Science Advisory Board and the National Academy of Science, Engineering and Medicine Water Science & Technology Board. I also served on the National Academy of Science workgroup that produced the report "Management of *Legionella* in Water Systems." I have attached as an Appendix a brief biography and the link to my website (www.drwaterconsulting.com) where my full *curriculum vitae* and links to recent publications can be found.

I am writing today to support HB 248 – the Legionnaires' Disease Prevention Act. In the past 20 years Legionnaires' Disease has become the most common cause of drinking water outbreaks – accounting for more that two-thirds of all reported outbreaks, affecting nearly 10,000 people per year and the cause of nearly all drinking water fatalities. This is a tragedy because, as the CDC reports, nearly all of these illnesses and fatalities are preventable – primarily through the implementation of effective water management plans. The National Academy of Science report on Legionella recommended that all public buildings be required to implement water management plans (Recommendation #3, see : https://www.nationalacademies.org/our-work/management-of-legionella-in-water-systems).

I commend HB 248 particularly in its approach to require Department of the Environment to adopt regulations for building owners to implement a water management program to manage *Legionella pneumophila* risk. The Department is the right agency and has the expertise to work out the details for this regulation. Moreover, the focus on *Legionella pneumophila* is appropriate as it accounts for 98% of all waterborne Legionnaires' Disease cases and all drinking water Legionnaires' Disease outbreaks. In France, cases of Legionnaires' disease (from all strains) dropped 4-fold when water management plans focused on specifically on *L. pneumophila* (Walker and McDermott 2021). And finally, low-cost methods are available for *Legionella pneumophila* analysis that avoid complicated and expensive remediation for strains of Legionella that are of low public health significance.

May make one suggestion for the bill? I suggest including provisions for signs at the entry areas of public buildings so that the public would know that the building has complied with the Department of the Environment regulations and is in good standing. Such signage could be similar to those already in existence for restaurants, elevators, etc. This would aloe the public to know if they are protected from Legionnaires' Disease (and other opportunistic pathogens that can grow in water) and would put additional pressure on building owners to stay in compliance.

Again, thank you for being part of the growing number of states taking proactive measure to combat Legionnaires' Disease! I would be happy to assist you in this effort.

Sincerely,

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Walker, J.T. and P.J. McDermott. 2021. Confirming the Presence of Legionella pneumophila in Your Water System: A Review of Current Legionella Testing Methods. Journal of AOAC International, 104(4), 2021, 1135–1147.
https://doi.org/10.1093/jaoacint/qsab003

Mark W. LeChevallier, Ph.D.

Dr. Mark LeChevallier is the principal and manager of Dr. Water Consulting, a part-time consulting business, after retiring from American Water at the beginning of 2018. Dr. LeChevallier received his Bachelor of Science and Master's degrees in Microbiology from Oregon State University, and his Ph.D. in Microbiology from Montana State University. Dr. LeChevallier's expertise is in water quality, treatment, and innovation for potable water, reclaimed water, and desalination.

Research areas have included bacterial regrowth, disinfection of biofilms, corrosion, bacterial nutrients, AOC measurement techniques, biological treatment, *Legionella*, *Mycobacterium*, microbial recovery and identification, modeling and impact of pressure transients on water quality, and detection, treatment and survival of *Giardia* and *Cryptosporidium*. He has authored or coauthored over 300 research papers, book chapters, or reports; most in peer-reviewed journals. Several of his papers have received awards from the American Water Works Association for outstanding contributions to the science of water treatment. He was the recipient of the George Warren Fuller award in 1997 from the New Jersey section of the American Water Works Association, the Abel Wolman Award from the American Water Works Association in 2012, and the A.P. Black award for research from the American Water Works Association in 2015. He is a fellow of the American Academy of Microbiology. Dr. LeChevallier has been the principal investigator, co-investigator or participant on over 100 research grants totaling over $43 million from the US Environmental Protection Agency, American Water Works Association, the Water Research Foundation, WateReuse Research Foundation, WERF, and various State agencies. Dr. LeChevallier was named by *Public Works* magazine as a 2005 Trendsetter to "recognize leaders in the public works community who have defined policy, brought their community or an issue into the spotlight, or set the standard within the industry."

Dr. LeChevallier currently serves as a member of the Water Science Technology Board of the National Academy of Science and was appointed in 2019 to the Drinking Water Subcommittee of the USEPA Science Advisory Board. He was a member of the National Academy of Science workgroup on *Legionella*. He is a past member of the *Journal of the American Water Works Association* editorial advisory board. He was a negotiator representing the National Association of Water Companies on the USEPA Federal Advisory Committee for revisions to the Total Coliform Rule and served on the Research and Information Collection Partnership panel for research to develop the Distribution System Rule. He was a member of the Distribution System Committee for the National Academy of Science, National Research Council. Dr. LeChevallier has served on a variety of professional committees and was the past-chair of the AWWA Water Science and Research Division, past-chair of Division Q of the American Society for Microbiology, past chair of the Peer Review Editorial Board for the *Journal of the American Water Works Association*, past chair of the AWWA Total Coliform Rule Technical Action Workgroup (TCR TAW), past member of the *Applied and Environmental Microbiology* editorial board, and past chair of the Unsolicited Proposal Review Committee for the Water Research Foundation. He has served several terms as a member and subgroup chair of the AWWA Research Foundation Research Advisory Committee and as a member of the Strategic Initiative group that directed a $5 million, 5-year program on distribution system research. He was a member of the Water Environment & Reuse Foundation (WE&RF) Research Advisory Council. He has been an active participant in several USEPA committees: the Disinfection By-Product Council Technical Advisory Group, the STAR peer review panel, SBIR review panels, and the Drinking Water Advisory Committee. He is a member of the American Water Works Association, the American Society for Microbiology.

Relevant Publications:

Jjemba, P.K., W. Johnson, Z. Bukhari and M. W. LeChevallier. 2015. Occurrence and Control of *Legionella* in Recycled Water Systems. *Pathogens* 4: 470-502; doi:10.3390/pathogens4030470.

Hamilton, K.A., M.T. Hamilton, W. Johnson, P. Jjemba, Z. Bukhari, M. LeChevallier, C.N. Haas. 2018. Health risks from exposure to Legionella in reclaimed water aerosols: Toilet flushing, spray irrigation, and cooling towers. *Water Research*. 134: 261-279. https://doi.org/10.1016/j.watres.2017.12.022

Johnson, W.J., P.K. Jjemba, Z. Bukhari, LeChevallier, M.W. 2018. Occurrence of *Legionella* in Non-Potable Reclaimed Water. *JAWWA* 110(3): 15-27. https://www.awwa.org/publications/journal-awwa/abstract/articleid/68666658.aspx

Bukhari, Z., M.W. LeChevallier, P.K. Jjemba, W, Johnson, C.N. Haas, and K. Hamilton. 2018. Development of a Risk Management Strategy for *Legionella* in Recycled Water Systems, WRF12-05. WateReuse Research Foundation, Alexandria, VA.

Ling, F., R. Whitaker, M.W. LeChevallier, W.T Liu. 2018. Drinking water microbiome assembly induced by water stagnation. ISME Journal. https://doi.org/10.1038/s41396-018-0101-5

Masters, S., J.L. Clancy, S. Villegas, M. LeChevallier, and Z. Bukhari. 2018. Customer Messaging on Opportunistic Pathogens in Plumbing Systems. WRF-4664. The Water Research Foundation, Denver, CO.

Hamilton, K.A., M.T. Hamilton, W. Johnson, P. Jjemba, Z. Bukhari, M. LeChevallier, C.N. Haas, P.L. Gurian. 2018. Risk-based critical levels of *Legionella pneumophila* for 2 indoor water uses. *Environmental Science & Technology*. 2019 53 (8), 4528-4541. https://doi.org/10.1021/acs.est.8b03000

LeChevallier MW. 2019. Monitoring distribution systems for *Legionella pneumophila* using Legiolert. AWWA Wat Sci. 2019;e1122. https://doi.org/10.1002/aws2.1122.

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LeChevallier MW. 2019. Occurrence of culturable *Legionella pneumophila* in drinking water distribution systems. AWWA Wat Sci. 2019;e1139. http://dx.doi.org/10.1002/aws2.1139

National Academies of Sciences, Engineering, and Medicine. 2019. Management of *Legionella* in Water Systems. Washington, DC: The National Academies Press. https://doi.org/10.17226/25474.

LeChevallier, M.W. 2020. Managing *Legionella pneumophila* in Water Systems. *JAWWA*. 112(2): 11-23. https://doi.org/10.1002/awwa.1444

LeChevallier, M.W. 2021. Guidance on Developing a Legionella pneumophila Monitoring Program for Utility Distribution Systems. Health Education and Public Health. 4(1): 369 - doi: 10.31488 /HEPH.158