



MassDEP / Drinking Water Program

100 Cambridge Street – 9th Floor; Boston, MA 02114

Program.Director-DWP@mass.gov or 617-292-5770

In The Main - The Drinking Water Updates can be found online at:

mass.gov/lists/communication-to-public-water-suppliers or at the Statehouse Archives at:
<https://archives.lib.state.ma.us/handle/2452/826119> which has a searchable database.



Stockton Park, Lawrence, MA Photo by: Eric Cheung

This *In The Main* newsletter has these topics of interest

2023-12-14

1. LCRI Published in the Federal Register
2. DEADLINE APPROACHING: Operator License Renewals Due Before December 31, 2023
3. How Many Lead Service Lines?
4. Getting Ready for the LCRR
5. Lead in Schools and Childcare Facilities Drinking Water Update
6. PFAS Update
7. Training Calendar
8. Cybersecurity, Emergency Preparedness, and You!
9. Supply Chain Reminders



Are you looking for past issues or topics in our *In the Main* newsletter?

Use the search function in the Statehouse Archives at:

<https://archives.lib.state.ma.us/handle/2452/826119>

LCRI Published in the Federal Register

Proposes Mandatory Lead Service Line Removals, Lower Lead Action Level, and more

MassDEP will be reviewing the proposed rule and recommends that Public Water Systems and other interested parties do the same. **Comments are due no later than February 5, 2024.**

EPA held an informational webinar last week and will hold a virtual public hearing on January 16, 2024. The recording of the information session and the link to register for the hearing will be available on EPA's LCRI website at

<https://www.epa.gov/ground-water-and-drinking-water/proposed-lead-and-copper-rule-improvements>. Registration for EPA's hearing is required whether you plan to speak or not. This website also includes a summary of the rule, Q&As, fact sheets and supporting materials.

The rule is posted at <https://www.federalregister.gov/documents/2023/12/06/2023-26148/national-primary-drinking-water-regulations-for-lead-and-copper-improvements-lcri>. Comments can be submitted on Regulations.gov at <https://www.regulations.gov/docket/EPA-HQ-OW-2022-0801>.

DEADLINE APPROACHING: Operator License Renewals Due Before December 31, 2023

License renewal for all certified operators in Massachusetts is due at the end of this month!

Operators seeking to renew their license(s) must submit a license renewal fee and certification that they have completed the required number of training contact hours (TCHs) for the highest-grade license they hold.

The Board of Certification of Operators of Drinking Water Supply Facilities (the Board) will be reviewing all license renewal applications. This coming year, the Board may perform some audits on license renewals to confirm the correct TCHs were obtained.

Information on how to renew an operator license on ePlace can be found on the page [Renew Your Board of Certification of Operators of Drinking Water Supply Facilities License](#). Additionally, operators can reference the [FAQ](#) page or contact the [Board](#) with any questions.

Resources for Finding Board-Approved Trainings

The [Information on Required Training for License Renewal](#) page includes information about the number of required TCHs for each license grade and other information about receiving and documenting TCHs.

Additionally, operators can use the following resources to find Board-approved trainings.

- Organizations with blanket approval for trainings:
 - [MA Water Works Association](#)
 - [MA Rural Water Association](#)
 - [New England Water Works Association](#)
 - [MA Water Resources Authority](#) (note: trainings for MWRA employees only)
 - [Western MA Waterworks Association](#)
- MassDEP [Training Calendars](#):
 - [Free trainings](#) and [fee-based trainings](#)
 - Note: Not all trainings listed have been Board-approved. Confirm approval with the training provider or the Board.

How Many Lead Service Lines?

How many lead service lines and connectors (such as goosenecks and pigtails) do we have in Massachusetts? Currently, we don't have a good estimate. In 2016 the American Water Works (AWWA) and National Resources Defense Council (NRDC) estimated we had 220,000 LSLs in the state <https://www.nrdc.org/resources/lead-pipes-are->

[widespread-and-used-every-state](#) Using survey responses from 2021 ([2021 Drinking Water Infrastructure Needs Survey and Assessment](#)), EPA estimated that there are 117,090 LSLs in Massachusetts out of 9.2 million nationally.

The EPA estimate resulted in Massachusetts receiving only 1.27% of the national grant funding for LSL inventories and removal in 2023, a decrease of approximately 50%. Many states questioned the methodology used by EPA in estimating the number of LSLs, partly because it was an optional survey. EPA gave states a one-time opportunity to re-survey the PWS that were originally surveyed in 2021. The deadline for resubmittal was November 30th. MassDEP successfully resubmitted survey results for PWSs with updated information- by the deadline. EPA has indicated their schedule to release the updated numbers is February – March 2024. At that time, EPA will determine new grant funding allotments to the states for 2024 (this will carry through 2026)

Getting Ready for the LCRR

MassDEP is continuing its Outreach Strategy to Notify PWS and Interested Parties of the Lead and Copper Rule Revisions (LCRR) Deadline, Requirements and Available Resources

MassDEP/DWP is continuing its outreach on the fast-approaching deadline and resources for PWS to comply with the U.S. Environmental Protection Agency's (USEPA) service line inventory requirements to interested parties. As required by the USEPA's Lead and Copper Rule Revisions (LCRR), all Community and Non-Transient Non-Community Public Water Systems (PWS) must develop a Service Line Inventory (SLI), including identification of lead service lines, on or before October 16, 2024. This inventory is needed for the PWS to ensure the removal of all lead service lines as soon as they can.

Removing lead service lines is a public health priority because lead is a tasteless and odorless metal which can cause harm to infants, children, and pregnant women. Lead exposure may lead to damage to the brain and nervous system, hearing and speech problems, learning and behavioral problems, and slowed growth and development.

The Massachusetts Department of Environmental Protection (MassDEP) is committed to continuing efforts to address lead service lines and exposure to lead in drinking water and to work with PWS to meet the MassDEP public health protection goal of removing all lead service lines in five years.

For many PWS, completing a SLI will require a significant amount of effort. Failure to submit an SLI may lead to enforcement, and the submittal of an SLI that identifies the material of many service lines as “unknown” will create further work for the system, while potentially delaying the removal of lead service lines. **This makes it essential that systems move quickly to take advantage of several free to low-cost programs offered by MassDEP. We need your help with spreading the word about these resources!**

These programs include:

- **Service Lines Inventory and Lead Service Line Replacement Plan Grant Program**
- **Assistance for Small Community Water Systems and Non-Transient Non-Community Systems - Lead Service Line Planning Program.**
- **0% Interest Loans for LSL Construction Projects**
- **Massachusetts Free Pilot Program for School and Early Education and Care Facilities Testing Ahead of LCRR**

These programs use funding from the State Revolving Fund (SRF) and the USEPA to provide grants and free technical assistance to qualifying PWS.

If you have any questions or comments, please contact the Drinking Water Program at program.director-dwp@mass.gov

Lead in Schools and Childcare Facilities Drinking Water Update

LCRI – What to Know for Schools and Childcares

On November 30, 2023, EPA announced the proposed Lead and Copper Rule Improvements (LCRI). **Importantly, EPA is proposing to retain the LCRR requirements for COM PWSs to offer to conduct sampling and to conduct public education in the schools and licensed childcare facilities they serve.** Remember, these requirements include:

- compiling a list of all schools and licensed childcare facilities served by the system,
- conducting sampling at 20% of elementary schools and licensed childcare facilities each year for five years,
- offering to sample at secondary schools and sampling on request,
- delivering results and information on remediation options to schools and childcares,
- submitting results to the State and state and local health departments annually.

Additionally, EPA is proposing to expand the waiver time period to allow States to waive the requirements for the first five-year cycle if applicable sampling was conducted between January 1, 2021 and the LCRI rule compliance date.

The MassDEP LCRR Pilot Program can assist PWS meet these requirements early. For more information email program.director-dwp@mass.gov, subject line “LCRR Pilot Program”.

Expanded Assistance Program Update

The Expanded Assistance Program for Lead in Schools and Early Education and Care Facilities (EECF) Drinking Water provides free analysis of lead drinking water samples and technical assistance to schools and EECFs by assisting with sampling, results interpretation, and guidance on remediation actions. The program is funded by a grant from the Water Infrastructure Improvements for the Nation (WIIN) Act from the U.S. Environmental Protection Agency. MassDEP also worked with the Clean Water Trust to secure additional funding to expand assistance to private schools.

Currently, 779 schools and EECFs are participating in the program and 484 (62%) of participating facilities are within environmental justice communities. To date, 534 schools and EECFs have completed testing. Of facilities that have tested and received results, 358 (67%) had one or more lead detections.

Do you know of any schools or childcare facilities that could benefit from the Expanded Assistance Program? Please identify and encourage schools and childcares within your service area to participate in the program.

Eligible facilities may apply for assistance at https://script.google.com/macros/s/AKfycbyr_U8wEMrA-Q2XifkK4l58x4GDtYrItvpKIKUAhSxpw9pSZtA/exec

PFAS Update

Comparing Massachusetts' level of PFAS in Drinking Water to the National Average

EPA released the Fifth Unregulated Contaminate Monitoring Rule (UCMR5) data in October. The occurrence data and the data summary document are posted here: <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule#5>. Nationally, 13.6% of PWS have testing results, this represents approximately 15% of the total results that the EPA expects to receive over the next three years.

National Data:

- PFOA was measured above the EPA's proposed MCL for 9.5% of PWSs.
- PFOS was measured above the EPA's proposed MCL for 10.7% of PWS.

Massachusetts Data:

- PFOA was measured above the EPA's proposed MCL for 26.3% of PWSs.
- PFOS was measured above the EPA's proposed MCL for 19.7% of PWS.

EPA Region 1 had the highest levels of PFOA and PFOS in the country. Some states, such as New Jersey and Connecticut, had higher levels than Massachusetts; most states had lower levels. Testing data is available for viewing on the [EPA UCMR5 data finder](#).

Please note: MassDEP established an MCL for PFAS6 over three years ago well in advance of the proposed federal regulations and has been working with our PWS to address PFAS. See our [PFAS webpage](#) for more information. MassDEP has offered and will continue to offer grants, loans, and technical assistance to PWS. 51 new water treatment facilities or additions to existing WTFs have been constructed and activated by PWS to remove PFAS; many more WTFs are in the planning, design and construction phases.

Proposed Federal MCLs for PFAS

EPA's schedule is to finalize the MCLs by the end of this month. States have up to two years to develop regulations once the EPA Rule is final.

PFAS	Maximum Contaminant Level Goal	Maximum Contaminant Level
PFOA	0	4.0 ppt
PFOS	0	4.0 ppt
PFBS	1.0 (unitless) Hazard Index	1.0 (unitless) Hazard Index
PFNA		
GenX (HFPO-DA)		
PFHxS		

Training Calendar

When you need training, please look at the training calendar located at:

<http://www.mass.gov/eea/agencies/massdep/water/drinking/drinking-water-training-class-schedules.html>.

Board of Certification Training Page and List of Approved Courses

You may also want to go to the Board of Certification of Operators of Drinking Water Supply Facilities Operators training page and view the approved education courses to sit for examination. Go to:

<https://www.mass.gov/doc/drinking-water-board-approved-education-courses-updated-september-2020/download>.

Some Newly Added Trainings on the Calendar

CWSRF Funding Process Virtual Workshop Series: How Do I Manage My Grant After My Award?

Tuesday, December 19, 2023; 12:00 – 1:00 p.m. ET; webinar

Join experts from the Environmental Finance Center Network for a no-cost webinar series on the Clean Water State Revolving Fund (CWSRF). This monthly series is intended to help you better understand the CWSRF funding process. Sessions will be held on the third Thursday of every month. Once you have been awarded funding, you will need to manage your award. During this webinar we will walk through managing your project. Topics will include Project Planning, Working with Engineers and Other Professionals, Setting Project Milestones, and A Little Bit of Finance. [Register now.](#)

- **MassDEP**
[Previous Cybersecurity Trainings now on YouTube:](#)
 - Basic Cybersecurity Measures for Water Utilities: <https://youtu.be/78v3eAyf1yE>
 - Ransomware Experiences, Defense, and Response: <https://youtu.be/eislsdQnXqE>
- **Environmental Finance Center Network**
For a complete list of trainings webinars and in-person trainings please go to: <https://efcnetwork.org/upcoming-events/>
- **EPA**
For a complete list of trainings, webinars and in-person trainings, please go to: <https://www.epa.gov/dwreginfo/drinking-water-training>.
- **Mass Rural Water Association**
For a complete list of trainings, webinars and in-person trainings, please go to: <https://www.massrwa.org/p/14/Trainings—Events>.
- **MWWA**
For a complete list of trainings, webinars and in-person trainings, please go to: [MWWA Calendar](#)
- **NEWWA**
For a complete list of trainings, webinars and in-person trainings, please go to: https://communityhub.newwa.org/nc__upcomingevents.
- **Water ISAC**
For a complete list of trainings, webinars and in-person trainings, please go to: <https://www.waterisac.org/resources>.
- **RCAP Solutions**
For a complete list of trainings, webinars and in-person trainings, please go to: <http://www.rcapsolutions.org/community-resources-events/>.
- **AWWA**
For a complete list of trainings, webinars and in-person trainings, please go to: https://www.awwa.org/Events-Education/Events-Calendar?utm_term=AWWA+Connections+10-8-2021&utm_content=Connections+10-8-2021&utm_source=communications&utm_medium=email&utm_campaign=connections.

Training Refresher

If you need a refresher on recently given trainings, you can review several training videos located at:

https://www.youtube.com/playlist?list=PLJn2AKOcYr7lutGJB-UfDKtQPF_o_249m

MassDEP is sending this important drinking water information to all PWS responsible persons who are listed on the state database. If you are no longer the correct responsible person for the PWS please reply with the correct contact information. MassDEP needs one responsible contact person from each PWS.

Operators, consultants, and others who are interested in Drinking Water Program updates are encouraged to request to be subscribed to this email list. You may also request to be unsubscribed by replying to this email.

This MassDEP Program Director technical assistance email is funded by the Safe Drinking Water Act Assessment (Section 70) Program. The Assessment is paid by all consumers of public water in Massachusetts and is collected by public water systems. For more information about the Assessment Program, go <https://www.mass.gov/service-details/safe-drinking-water-act-assessment-advisory-committee-section-70-committee>.

Cybersecurity, Emergency Preparedness, and You!

2023-12-14

PLEASE SHARE THIS CYBERSECURITY INFORMATION WITH YOUR SCADA & INFORMATION TECHNOLOGY STAFF



Be Vigilant!



Report all incidents and anomalous activity to [CISA](#) and/or the FBI via your local [FBI field office](#) or the FBI's 24/7 CyWatch at 855-292-3937 or cywatch@ic.fbi.gov



Regularly review CISA'S [Shields Up](#) page.



[EPA FREE CYBERSECURITY ASSESSMENT PROGRAM: 65 PWS have already used this no cost opportunity.](#)

All PWS should have a baseline cybersecurity assessment. Take advantage of this opportunity and join the group of proactive PWS that have done so. MassDEP/DWP will be inspecting your PWS's cybersecurity programs and plans including assessments during sanitary surveys, permitting and approval or as needed. Strengthen your PWS cybersecurity routine operations and register for the EPA Cybersecurity Assessment. Register with simple steps by using the following link: <https://www.epa.gov/waterresilience/forms/epas-water-sector-cybersecurity-evaluation-program>. For additional resources visit [EPA Cybersecurity for the Water Sector | US EPA](#).



[CISA Free In-Person Cybersecurity Assessments for Selected 20 PWS in Massachusetts: 11 PWS have already signed up.](#)

Do you want a cybersecurity assessment from the federal Cybersecurity and Infrastructure Security Agency (CISA)? MassDEP/ DWP is working collaboratively with CISA to provide in-person cyber assessment to 20 pre-selected Public Water Systems (PWS) in Massachusetts. These PWS will be chosen based on criteria such as PWS type, size, and particularly the timing of their sanitary surveys.

If you are interested, please let us know at your earliest convenience at program.director-dwp@mass.gov.

Subject: CISA Cybersecurity Assessments

NEW Critical Infrastructure Security Updates:



Stay Vigilant! Cyber Alert: Exploitation of Unitronics PLCs Used in Water and Wastewater Systems

-
- Cybersecurity Infrastructure and Security Agency (CISA), National Security Agency (NSA), Environmental Protection Agency (EPA), and the Israel National Cyber Directorate (INCD) have released [a joint Cybersecurity Advisory \(CSA\)](#) to highlight continued malicious cyber activity against operational technology devices. A group, known as "CyberAv3ngers," is actively targeting and compromising Unitronics Vision Series programmable logic controllers (PLCs), particularly those used in the Water and Wastewater Systems Sector. The advisory includes indicators of compromise (IOCs) and tactics, techniques, and procedures (TTPs) associated with these cyber operations.
 - **Background:** On November 25th there was an attack on the Municipal Water Authority of Aliquippa in western Pennsylvania. The attack, by CyberAv3ngers, was the result of the exploitation of Unitronics PLCs. According to [CISA's alert](#), the threat actors likely accessed the affected device – a Unitronics Vision Series PLC with a Human Machine Interface (HMI) – by exploiting cybersecurity weaknesses, including poor password security and exposure to the internet.

Immediate Actions

PWS are strongly encouraged to take the following actions to enhance their cybersecurity posture and remain vigilant against potential cyber-attacks:

- **Change Default Passwords:** PWS are encouraged to check their environment for the affected Unitronics PLCs and address accordingly – including by changing the default password to a long password of random characters and by disconnecting the PLC from the internet if remote access is not absolutely necessary. This advice applies to all PLCs regardless of whether they are Unitronics or other brands.
- **Cybersecurity Assessments:** Have you completed a cybersecurity assessment for your PWS? If No, Sign Up For a Free [Cybersecurity Assessment Today at EPA's Water Sector Cybersecurity Evaluation Program | US EPA](#)
- **Reduce Risk Exposure:** CISA offers a range of services at no cost, including scanning and testing to help organizations reduce exposure to threats via mitigating attack vectors. [CISA Cyber Hygiene](#) services can help provide additional review of organizations' internet-accessible assets. Email vulnerability@cisa.dhs.gov with the subject line, "Requesting Cyber Hygiene Services" to get started.

Additional Recommendations

- **Implement Multifactor Authentication:** Require multifactor authentication for all remote access to the OT network, including from the IT network and external networks.
- **Disconnect The PLC from The Open Internet:** If remote access is necessary, implement a Firewall/VPN in front of the PLC to control network access to the remote PLC. A VPN or gateway device can enable multifactor authentication for remote access even if the PLC does not support multifactor authentication. Unitronics also has a secure cellular based longhaul transport device that is secure to their cloud services.
- **Back Up the Logic and Configurations:** Back up logic and configuration on any Unitronics PLCs to enable fast recovery. Become familiar with the process for factory resetting and deploying configurations to a device in the event of being hit by ransomware.
- **Use A Different TCP Port:** If possible, utilize a TCP port that is different than the default port TCP 20256. Cyber actors are actively targeting TCP 20256 after identifying it through network probing as a port associated to Unitronics PLC. Once identified, they leverage scripts specific to PCOM/TCP to query and validate the system, allowing for further probing and connection. If available, use PCOM/TCP filters to parse out the packets.
- **Update PLC/HMI** to the latest version provided by Unitronics. (Source CISA)

Incident Reporting

If your utility experiences any cyber incidents or suspicious activity, contact the FBI via your [local Field Office](#), Cyber Watch (CyWatch) at (855) 292-3937 or CyWatch@fbi.gov, or the [Internet Crime Complaint Center \(IC3\)](#). You can also contact CISA at report@cisa.gov or (888) 282-0870. Additionally, contact WaterISAC by emailing analyst@waterisac.org, calling 866-H2O-ISAC, or using the [online incident reporting form](#). (Source WaterISAC and CISA).

If you have questions, please reach out to us at program.director-dwp@mass.gov, Subject: Cybersecurity. Thank you for your continued work to provide safe drinking water and protect public health.

Other Useful Training and Information

USEPA Webinar Recording: PLCs Hacked at Water and Wastewater Systems - Understand the Threat and How to Protect Your Utility

- During this webinar, speakers from the USEPA, CISA Cybersecurity and FBI provided important updates on the recent hacking of Unitronics Programmable Logic Controllers (PLCs) at US Water and Wastewater Systems, including recommended mitigations and cybersecurity best practices utilities can implement to protect against this threat.
- PWS are strongly encouraged to watch the video using the following link <https://www.youtube.com/watch?v=ulvUC6lQRZs> and implement the recommended mitigations and cybersecurity practices promptly.

Water and Wastewater Utilities and other Critical Infrastructure Fortify Defenses Against Cyber Attacks

- Cyber threats to critical infrastructure, including the water and wastewater sectors, surged in 2023, prompting integration of advanced technologies like artificial intelligence and machine learning.
- Encryption, anomaly detection, and multi-factor authentication strengthened defenses. [Full article](#)

CISA ICS Vulnerability Advisories and Alerts, Updates, and Bulletins

- For Cybersecurity and Infrastructure Security Agency's (CISA) recent ICS vulnerability advisories, as well as alerts, updates, and bulletins, use the following link: <https://www.cisa.gov/news-events/cybersecurity-advisories>.

Upcoming Trainings

SANS Webinar: The ICS Attack Map Series - Water Sector

Thursday, January 11, 2024; 11:00 a.m. ET; webinar

In this webinar the speaker will review the most common attacker tactics and techniques used across commonly targeted critical infrastructure sectors. In the final part of the series, the webinar will specifically speak to the Water sector. This webcast will dive into initial access, attack execution, persistence, process control impairment, inhibit response function, lateral movement, and more. [Register now](#)

Water Sector Cyber Threat Web Briefing

Wednesday, January 24, 2024; 2:00 - 3:00 p.m. ET

On January 24, WaterISAC will convene its monthly Water Sector Cyber Threat Web Briefing. Presenters will cover the latest cyber threats facing the water and wastewater sector. [Event details](#)

MassDEP Cybersecurity Reminders:

- **Cybersecurity Continues to Be an Important Component of Providing Safe Drinking Water in Massachusetts**
- MassDEP posters with cybersecurity tips to help keep your systems secure <https://www.mass.gov/info-details/public-drinking-water-system-operations#cybersecurity->
- Public Water Systems may include cybersecurity planning in DWSRF Asset Management Grant applications <https://www.mass.gov/service-details/asset-management-planning-grant-program>
- Other Grants <https://www.epa.gov/waterresilience/cybersecurity-funding>

Supply Chain Reminders

PWSs are reminded to implement the steps identified by DWP at <https://www.mass.gov/doc/steps-to-prepare-your-public-water-system-for-supply-chain-disruptions/download> and keep MassDEP/DWP informed of all Supply Chain issues.

Resources:

- [EPA Chemical Supplier and Manufacturer Locator Tool](#): This tool allows water and wastewater utilities to search for suppliers and manufacturers across the U.S. that may be able to fulfill their chemical supply needs and
-

increase resilience to supply chain disruptions. This tool can be can also be useful for finding alternative chemical suppliers in the case of supply chain shortages.

- Join [MassWARN](#).
-