2025 Regulatory Update

Virginia Tech – Continuing Professional Education, Webinar Series
August 13, 2025
12:00 – 3:00 PM
Presented by ODW Staff

Office of Drinking Water
Safe Drinking Water for a Healthy Virginia

Welcome/Agenda

- Please keep your microphones muted throughout the duration of the presentation.
- Questions will be handled through the chat function.

2 Hour reporting Module

MOR Reporting Requirements

5 Minute Break

Lead and Copper Module

PFAS Module

5 Minute Break

Fluoride Module

CCR/Other Rules Module

2 Hour Reporting Requirement Law and Policy

Grant Kronenberg
Director of Compliance, Enforcement and Policy
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Presented by: Jarrett Talley
Capacity Development, Supervisor

Office of Drinking Water
Safe Drinking Water for a Healthy Virginia

Events in the Past Year

July 6, 2024

LOCAL NEWS

Massive fertilizer warehouse fire that led to evacuation in South Hill is contained, officials say

Police: 'Unless you are in the immediate vicinity of the fire you are OK to shelter inside'

October 1, 2024

Boil water notice impacts all of Montgomery County due to Hurricane Helene

by Brigette Kelly | Tue, October 1st 2024 at 7:03 PM
Updated Tue, October 1st 2024 at 7:17 PM

All of Virginia Tech is without fresh water following impacts from Hurricane Helene. (Credit: Brigette Kelly, WSLS)

May 27, 2025

Richmond issues boil-water advisory after plant issue

City residents urged to conserve water; state is investigating

August 21, 2024

CBS19 NEWS — NEWS | WEATHER | SPORTS | FEATURES | ELEVATE SMALL BUSINESS | STATION | C'VILLE SPECTA

RSA: Stop using water from Wilderness WTP

News Staff Aug 21, 2024

January 6, 2025

RICHMOND

Mayor: No drinkable water in Richmond until Friday

From the Updates | Coverage of Richmond water outage from The Times-Dispatch series

Samuel B. Parker Jan 9, 2025 3

Legislation Timeline

- 1/8/25 – HB2407 Introduced – Notification to ODW of significant events
- 1/17/25 – HB2749/SB1408 – Establishes 6 hour reporting of significant events
- 2/21/25 – Bills passed by House and Senate unanimously
- 3/24/25 – Governor's recommendation received lowering reporting window to 2 hours
- 4/2/25 – Governor's recommendation adopted
- 7/1/25 – Statute goes into effect as law. Code of Virginia § 32.1-174.5

The New Reporting Law

VIRGINIA ACTS OF ASSEMBLY - 2025 RECONVENED SESSION

CHAPTER 672

An Act to amend the Code of Virginia by adding a section numbered 32.1-174.5, relating to Department of Health Office of Drinking Water; waterworks; mandatory reporting; monthly operation report.

[H 2749]

Approved April 2, 2025

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding a section numbered 32.1-174.5 as follows:

§ 32.1-174.5. Mandatory reporting of contaminant releases and equipment failures and malfunctions.

A. As used in this section:

"Contaminant release" means an unplanned or uncontrolled release by a waterworks of a chemical contaminant or petroleum or synthetic oil into the water that is treated by or distributed from the waterworks to customers. "Contaminant release" includes any such release at treatment facilities and raw or finished water pump stations.

"Critical equipment failure or malfunction" means any equipment failure or malfunction that has significant potential for serious adverse effects on human health as a result of short-term exposure or to cause a widespread disruption of water service.

"Equipment failure" means an unplanned condition when the equipment cannot perform or is unable to perform as designed because of a problem with such equipment. "Equipment failure" does not mean a planned (i) removal from service, (ii) repair, or (iii) maintenance.

"Equipment malfunction" means an unplanned condition during which the equipment cannot perform or is unable to perform as designed due to a problem originating from outside the waterworks rather than a problem associated or originating with the equipment itself, including an issue with third-party provided gas or electric power feeds or a cyberattack.

"Monthly operating report" means the report submitted by a waterworks to the Office at least once each month that describes the waterworks' operational status and compliance with applicable laws, regulations, and policies, as directed by the Department.

"Noncritical equipment failure or malfunction" means an equipment failure or malfunction that is not a critical equipment failure or malfunction, regardless of whether such anomaly is noticeable to customers of the waterworks.

"Office" means the Department's Office of Drinking Water.

B. The owner of a waterworks shall report any critical equipment failure or malfunction or contaminant release to the Office as soon as practicable but no more than two hours after discovery.

C. Any owner of a waterworks that is required to submit a monthly operating report to the Office shall include any noncritical equipment failure or malfunction that could adversely affect water quality, public health, or service continuity that occurred during the applicable reporting month and was not resolved by the reporting deadline. For the purposes of this subsection, any noncritical equipment failure or malfunction that is effectively addressed by equipment repair or replacement, alternative equipment use, alternative system operation, or such other response shall be considered resolved.

The New Reporting Law

- This is a reporting law only.
- Must report the following to ODW within two hours of discovery:
  - A "contaminant release" or "critical equipment failure or malfunction."

The New Reporting Law

- Contaminant release:
  - "[A]n unplanned or uncontrolled release by a waterworks of a chemical contaminant or petroleum or synthetic oil into the water that is treated by or distributed from the waterworks to customers."
  - It "includes any such release at treatment facilities and raw or finished water pump stations."

The New Reporting Law

- Equipment failure:
  - An "unplanned condition when the equipment cannot perform or is unable to perform as designed because of a problem with such equipment."
  - It does not include a planned removal from service, repair, or maintenance.

The New Reporting Law

- Equipment malfunction:
  - An "unplanned condition during which the equipment cannot perform or is unable to perform as designed due to a problem originating from outside the waterworks rather than a problem associated or originating with the equipment itself, including an issue with third-party provided gas or electric power feeds or a cyberattack.”
  - This is something external to the system that is causing the problem.

The New Reporting Law

- An equipment failure or equipment malfunction must be reported in two hours only if it is “critical equipment failure or malfunction.”

- A "critical equipment failure or malfunction" is any equipment failure or malfunction that has significant potential:

  - For "serious adverse effects on human health as a result of short-term exposure"; or

  - To "cause a widespread disruption of water service."

The New Reporting Law

- What if the equipment failure or equipment malfunction is not a "critical equipment failure or malfunction"?
  - Then it is a "noncritical equipment failure or malfunction.

- A noncritical equipment failure or malfunction is reported in the monthly operating report (MOR) if:
  - The failure or malfunction could adversely affect water quality, public health, or service continuity; and
  - The failure/malfunction has not been resolved by the MOR deadline.

- The MOR reporting requirement applies to those systems required to submit an MOR.

The New Reporting Law

- Two-hour reporting is required even if the Waterworks Regulations specify a longer reporting time for the event. (ODW plans to amend the Waterworks Regulations to add the two-hour reporting requirement.)

- If the two-hour reporting requirement does not apply, a waterworks must still comply with the Waterworks Regulations' reporting requirement for that event.

- Advice: Even if the two-hour reporting requirement does not apply, determine whether another reporting requirement in the Waterworks Regulations applies.

2 Hour Reporting Requirement Technical Details

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Director, Division of Technical Services
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Office of Drinking Water
Safe Drinking Water for a Healthy Virginia

VDH VIRGINIA DEPARTMENT OF HEALTH
To protect the health and promote the well-being of all people in Virginia.

Significant Potential for Serious Adverse Effects on Human Health as a Result of Short-Term Exposure – Examples of Conditions*

Groundwater under the direct influence of surface water (GUDI) and surface water sources with inadequate filtration or disinfection treatment.

Groundwater source with inadequate 4-log inactivation of virus treatment.

Known or potential contamination from a water line break.**

Failure of nitrate removal treatment for a water source with more than 10 mg/L of nitrate.

Backflow of contaminants due to a cross connection.

Failure or significant interruption in any key water treatment process for surface water or GUDI treatment. These include pumping, coagulation, flocculation, sedimentation, filtration, and disinfection.

*This is not an exclusive list.

**With a Boil Water Advisory

Significant Potential for Serious Adverse Effects on Human Health as a Result of Short-Term Exposure – Examples of Conditions (Continued)*

A single exceedance of the maximum allowable turbidity limit of one NTU (conventional, membrane, bag and cartridge filtration technologies) or five NTU (slow sand or diatomaceous earth filtration technologies) at the combined filter effluent (CFE) tape. (See 12VAC5-590-530.D of the Waterworks Regulations for the requirement for reporting such events to VDH regardless of whether it is caused by a critical equipment failure or malfunction)

Entry point chlorine disinfectant level of less than 0.2 mg/L for more than four hours at a WTP treating surface water or groundwater under the direct influence of surface or both. (See 12VAC5-590-531.G.2 of the Waterworks Regulations for the requirement to report to VDH regardless of whether it is caused by a critical equipment failure or malfunction)

*This is not an exclusive list.

Significant Potential for Serious Adverse Effects on Human Health as a Result of Short-Term Exposure – Examples of Conditions (Continued)*

Flooding of clearwells or groundwater wells with nonpotable water.

Failure to maintain the minimum entry point disinfectant residual for more than four hours for a groundwater system required to provide 4-log treatment of viruses. (See 12VAC5-590-421.C.1 of the Waterworks Regulations)

A waterborne disease outbreak that is potentially attributable to the waterworks. (See 12VAC5-590-531.G.1 of the Waterworks Regulations for the requirement to report to VDH waterborne outbreaks potentially attributable to a waterworks regardless of whether it is caused by a critical equipment failure or malfunction)

*This is not an exclusive list.

Widespread disruption of water service

is a loss of water service affecting any one of the following:

(1) 500 or more service connections for waterworks with 5,000 or more connections;

(2) 10% or more of the waterworks' service connections for waterworks with 500 to 4,999 service connections;

(3) 50 or more service connections for waterworks with fewer than 500 service connections;

(4) a congregate care living facility (for example, a hospital, long-term care facility, correctional center, or prison); or

(5) a loss of service to one or more connections provided by a wholesale waterworks.

A significant potential to cause a widespread disruption of water service

Means it is reasonable to expect that the equipment failure or equipment malfunction may result in a loss of service that qualifies as a “widespread disruption of water service.”

Does not mean a situation where the waterworks corrects an identified equipment failure or equipment malfunction by timely repair or replacement, alternative equipment use, alternative system operation, or other similar response that avoids the potential for any serious harm to human health or widespread disruption of water service.

Contaminant Release

Any contaminant release is subject to the two-hour reporting requirement.

A “chemical contaminant” is any objectionable or hazardous substance. The substance does not have to be a regulated chemical or cause harm to qualify as a “chemical contaminant.”

Includes release of a chemical contaminant, petroleum, or synthetic oil by the waterworks that occurs inside a water treatment plant or pump station or in the distribution system, such as a backflow event.

Includes when a chemical contaminant is in the source water and passes through the treatment into the finished water.

Equipment failure examples*

Mechanical:

- Intake structure failure
- Pump failure
- Pipe break
- Chemical feed system failure (disinfectant, oxidizer, coagulant)
- Well collapse
- Tank rupture
- Mixer failure
- Blower failure
- Treatment unit failure

Electrical:

- Transformer failure
- Switch failure
- Fuse failure
- Motor failure
- UV system failure
- Power supply (internal to waterworks) failure
- Generator failure

*This is not an exclusive list.

Equipment failure examples*

Control:

- Programmable Logic Controller (PLC) failure
- Supervisory Control and Data Acquisition (SCADA) failure
- Computer or software failure
- Control panel failure
- Sensor or instrument failure

*This is not an exclusive list.

Equipment malfunction examples*

Loss of commercial power

Loss of SCADA communications

Cyberattack

Natural, man-made including terrorism, and technological disasters that impact the functionality of the equipment

No chemical due to supply chain issues or a delivery failure

A lack of resources that results in equipment not being able to perform at all or as designed, such as imminent depletion of chemical inventories or disruption in the supply of components for repair/replacement

*This is not an exclusive list.

Advisories or Notices

Boil Water

Do Not Use

Do Not Drink

If a waterworks issues or plans to issue an advisory due to an equipment failure or equipment malfunction that does not involve a pipe break, then it is a “critical equipment failure or malfunction” and must be reported to ODW within two hours.

If a waterworks, following ODW's guidance on pipe break types and responses, issues or plans to issue an advisory due to a pipe break then it is a critical equipment failure or malfunction and must be reported to ODW within two hours.

Real World 2-hour reports

Description	Reporting Method	Critical equipment failure or malfunction?	Potential for Widespread disruption of water service?	2-Hour report required?	Report in Monthly Operation Report
Plant lost line power, switched to generators. Plant was able to run on generators without problems, maintain normal operations, until line power was restored (all on same day)	Phone call to District Engineer (in office)	No	No	No	No
One of three UV units at the water plant went out of service - the other two units remained in service. Plant was able to meet log inactivation requirements with the one unit out - repairs to be accomplished promptly.	Phone call to Deputy Field Director (in office)	No	No	No	No
Waterworks reported booster pump failure at groundwater system, no water to distribution system. System serves cabins and banquet hall, none occupied at time of incident. System later clarified that hydrotank was found to be waterlogged, not a booster pump failure.	Phone call to call center (did not say drinking water emergency, so call center did not know that caller was talking about), then call to Field Director and District Engineer	Yes	No	No 24-hour report required	No
Water leak discovered. Section of distribution system required to be isolated from water to conduct repair - limited to 12 connections. Limited Boil Water Advisory issued.	Phone Call to FD	Yes – BWA Issued	No	Yes	No

Real World 2-hour reports

Description	Reporting Method	Critical equipment failure or malfunction?	Potential for Widespread disruption of water service?	2-Hour report required?	Report in Monthly Operation Report
Power failure at WTP and generator failed to initiate. The waterworks has a consecutive connection which can supply all of the system's needs indefinitely.	Call Center (twice), plus phone call to CFO staff member. First call to call center mistakenly got routed to local health director	No	No	No	No
PLC Failure disabled a well. The waterworks has 6 additional wells and a surface water treatment plant capable of meeting demands.	Call Center	No	No	No	Yes
Breaker went down unexpectedly at Surface Water Treatment Plant A, at about 7:20 AM, affecting filter controls and effluent valves. Plant staff decided to shut plant down entirely. Surface Water Treatment Plant B was able to meet all needs of the distribution system. Waterworks learned that a transformer blew. Once that was replaced, the Waterworks was able to repair the damaged circuit and restore normal plant operations. Plant A was offline for perhaps 6-1/2 hours.	Call Center	Maybe	WTP B NOT able to meet needs	Yes	No
			WTP B was able to all needs	No	Possibly

Real World 2-hour reports

Description	Reporting Method	Critical equipment failure or malfunction?	Potential for Widespread disruption of water service?	2-Hour report required?	Report in Monthly Operation Report
Electrical panel failure, storms observed in area. Electrical panel breaker doesn't appear to be tripped, no apparent damage- will most likely need to get electrician on site to assess.	Call to FD cell phone	Yes	Yes Actual loss of service	Yes	No
~4.5 hour loss of pressure due to planned shutdown by wholesaler waterworks. Wholesaler waterworks contractor closed valve to perform planned maintenance which resulted in loss of service to consecutive waterworks. This wasn't communicated ahead of time to the consecutive.	Call to FD cell phone	No	Actual loss of service	No - Planned maintenance, controlled shutdown	No
Multiple leaks in the distribution system. Potential to affect storage capacity. Currently investigating sources of the leaks. Pressure is maintained at this time. Impacts 100 connections.	Phone call to District Engineer (in office)	Maybe	No – P Holding	No	Possibly
			Yes – P Not holding	Yes	No
Water main break. 240 Connections impacted at a waterworks with > 5000 connections. BWA Issued.	In-person notification to FO staff	Yes – BWA Issued	No	Yes	No
Water main break. Controlled shutdown. No BWA issued. 6 connections impacted at a waterworks with > 5000 connections.	In-person notification to FO staff	No	No	No	No

Example scenarios

Description	Critical equipment failure or malfunction?	Potential for Widespread disruption of water service?	2-Hour report required?	Report in Monthly Operation Report
A waterworks with greensand filtration experiences an overfeed of permanganate and "pink water" enters the distribution system. This is a "contaminant release" and 2-hour reporting is required.	No	No	Yes	No
Inadequate chlorine for more than 4 hours at a waterworks with 4-log inactivation of a groundwater source. This poses a significant potential for serious adverse effects on human health.	Yes	No	Yes	No
Chlorination system failure with less than 0.2 mg/L chlorine for more than 4 hours at surface WTP. This poses a significant potential for serious adverse effects on human health.	Yes	No	Yes	No
A well is inundated with muddy flood waters, but remains in service, pumping contaminated water to the distribution system. This poses a significant potential for serious adverse effects on human health.	No	No	Yes	No

2 Hour Reporting Requirement
Waterworks Reporting Process

Franklin McMillian

Emergency Services Planner

Franklin.mcmillian@vdh.virginia.gov

Office of Drinking Water

Safe Drinking Water for a Healthy Virginia

VDH VIRGINIA DEPARTMENT OF HEALTH

To protect the health and promote the well-being of all people in Virginia.

Notifying ODW

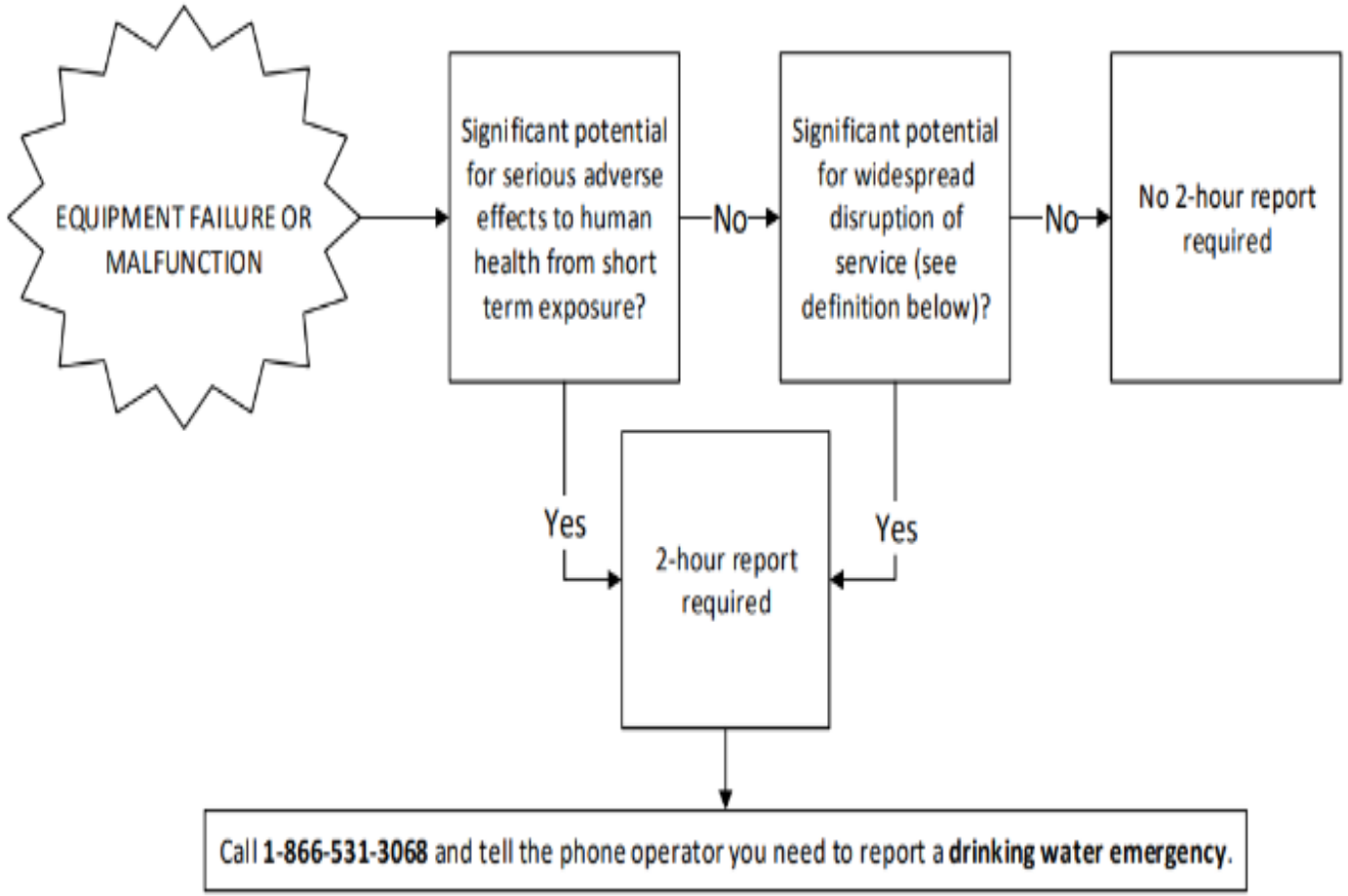
- ✓ The waterworks has decided that it needs to make a 2-hour notification.
- ✓ Waterworks will call the VDH Call Center: 1-866-531-3068
  - ✓ This contact will be the official time contact was made was this reporting option
- ✓ The call taker will collect basic information
  - ✓ (callers name, phone number, waterworks name, PWSID, locality and general situation)

Notifying ODW

- ✓ ODW point of contact will be notified
- ✓ ODW will call the caller back within 15 minutes to gather some additional information
  - ✓ What is going on, who is impacted, any help needed, etc.
- ✓ Please remain in contact with ODW as the situation evolves (improvements and setbacks)

2-Hour Reporting Flow Chart

This chart is intended to aid in the decision making process following an equipment failure or malfunction.
Any contaminant release requires a 2-hour report to ODW.



2-Hour Reporting Flow Chart

A "widespread disruption of water service" is a loss of water service affecting any one of the following: (1) 500 or more service connections for waterworks with 5,000 or more service connections; (2) 10% or more of the waterworks' service connections for waterworks with 500 to 4,999 service connections; (3) 50 or more service connections for waterworks with fewer than 500 service connections; (4) a congregate care living facility (for example, a hospital, long-term care facility, correctional center, or prison); or (5) a loss of service to one or more connections provided by a wholesale waterworks. A "loss of water service" means no flow or low flow at the customer's tap caused by no or low pressure in the water distribution system. As a reminder, a water service outage due to planned removal from service, repair, or maintenance of equipment is not an equipment failure and does not need to be reported.

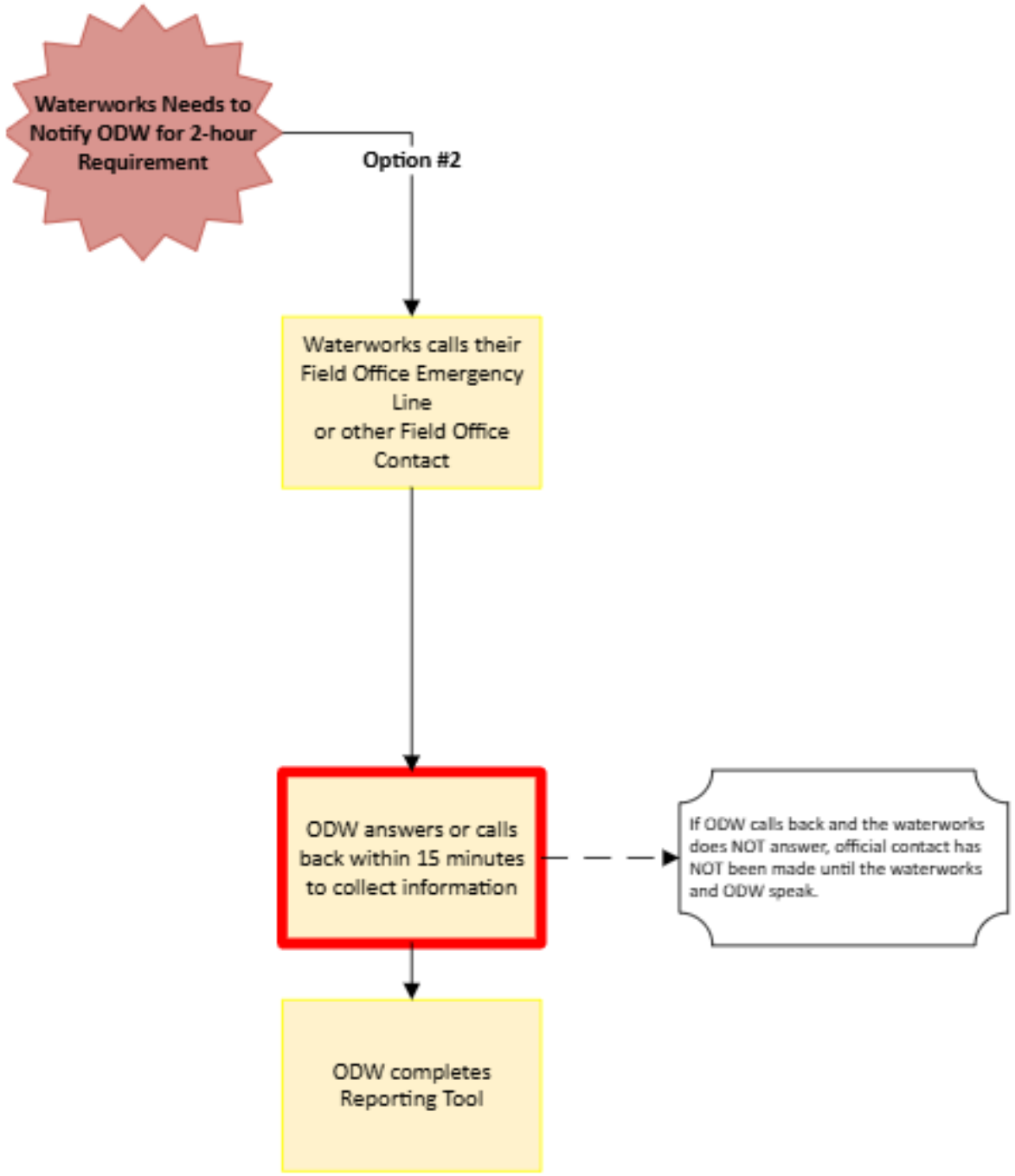
Except for items (4) and (5) in the above paragraph, ODW does not consider a disruption of water service to 49 or fewer connections to be a "widespread disruption of water service" requiring reporting within two hours; however, reporting to ODW within 24 hours would be required.

Note: This flowchart is to be used as a tool in decision making, but it is not all encompassing of the full statute. The Owner must exercise its profesional judgement in a reasonable manner to promote coordination with and obtain needed assistance from ODW. If an event is not 2-hour reportable, there may still be 24-hour or monthly operations reporting requirements.

Notifying ODW

- ✓ Alternatively, the utility can call their ODW field office, district engineer, or engineering field director like they do presently.

- ✓ The reporting obligation is NOT met until actual contact is made
  - ✓Cannot just leave a voicemail, text or email for ODW employee
  - ✓If ODW calls waterworks back and they do not answer, contact has NOT been made.
    - ✓This is because this is a single source of contact versus the preferred method notifies several staff members at once.


Waterworks Needs to Notify ODW for 2-hour Requirement
Option #2
Waterworks calls their Field Office Emergency Line or other Field Office Contact
ODW answers or calls back within 15 minutes to collect information
If ODW calls back and the waterworks does NOT answer, official contact has NOT been made until the waterworks and ODW speak.
ODW completes Reporting Tool

Monthly Operating Reports (MOR)

Aaron Moses, PE
Field Services Engineer
Aaron.Moses@vdh.virginia.gov

Office of Drinking Water
Safe Drinking Water for a Healthy Virginia

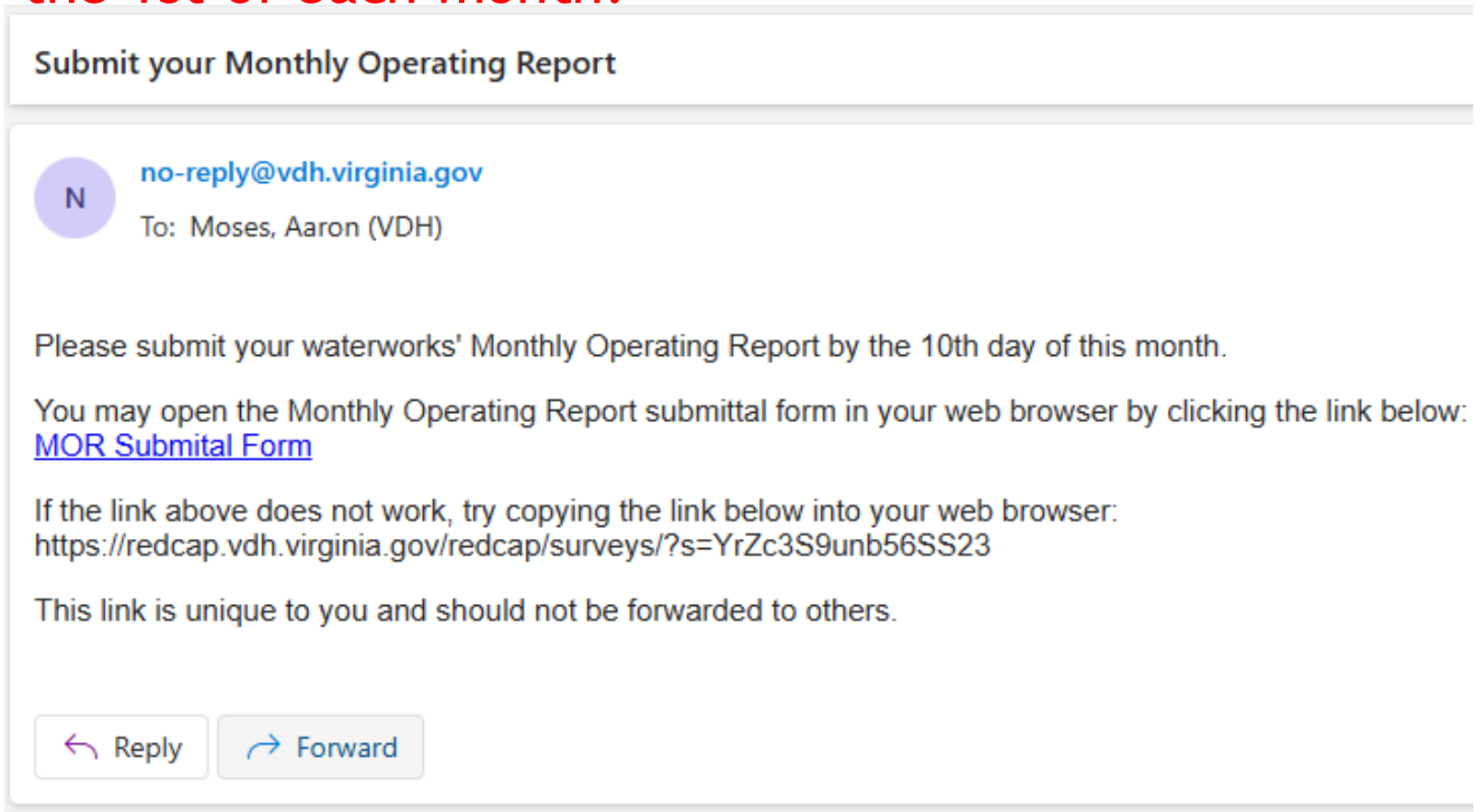
Monthly Operating Reports (MOR)

Important Notes:

- All MORs are now required to be submitted through the ODW REDcap form by 10th of the following month. This replaces prior email process.
- Link provided by monthly notification email and ODW webpage.
- One submittal per PWSID

Email Notification

Sent to designated operator or administrative contact on the 1st of each month.



Submit your Monthly Operating Report

N

no-reply@vdh.virginia.gov

To: Moses, Aaron (VDH)

Please submit your waterworks' Monthly Operating Report by the 10th day of this month.

You may open the Monthly Operating Report submittal form in your web browser by clicking the link below:
MOR Submital Form

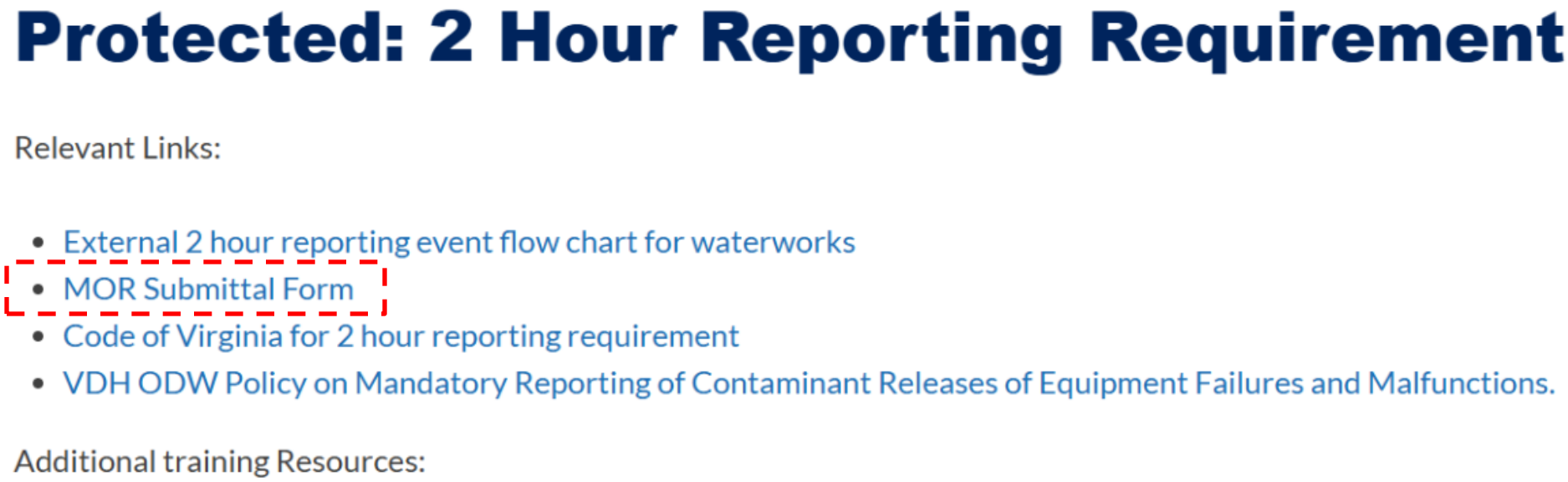
If the link above does not work, try copying the link below into your web browser:
https://redcap.vdh.virginia.gov/redcap/surveys/?s=YrZc3S9unb56SS23

This link is unique to you and should not be forwarded to others.

Reply Forward

Website Link

A link is also available on the ODW webpage.



Protected: 2 Hour Reporting Requirement

Relevant Links:

- External 2 hour reporting event flow chart for waterworks
- MOR Submittal Form
- Code of Virginia for 2 hour reporting requirement
- VDH ODW Policy on Mandatory Reporting of Contaminant Releases of Equipment Failures and Malfunctions.

Additional training Resources:

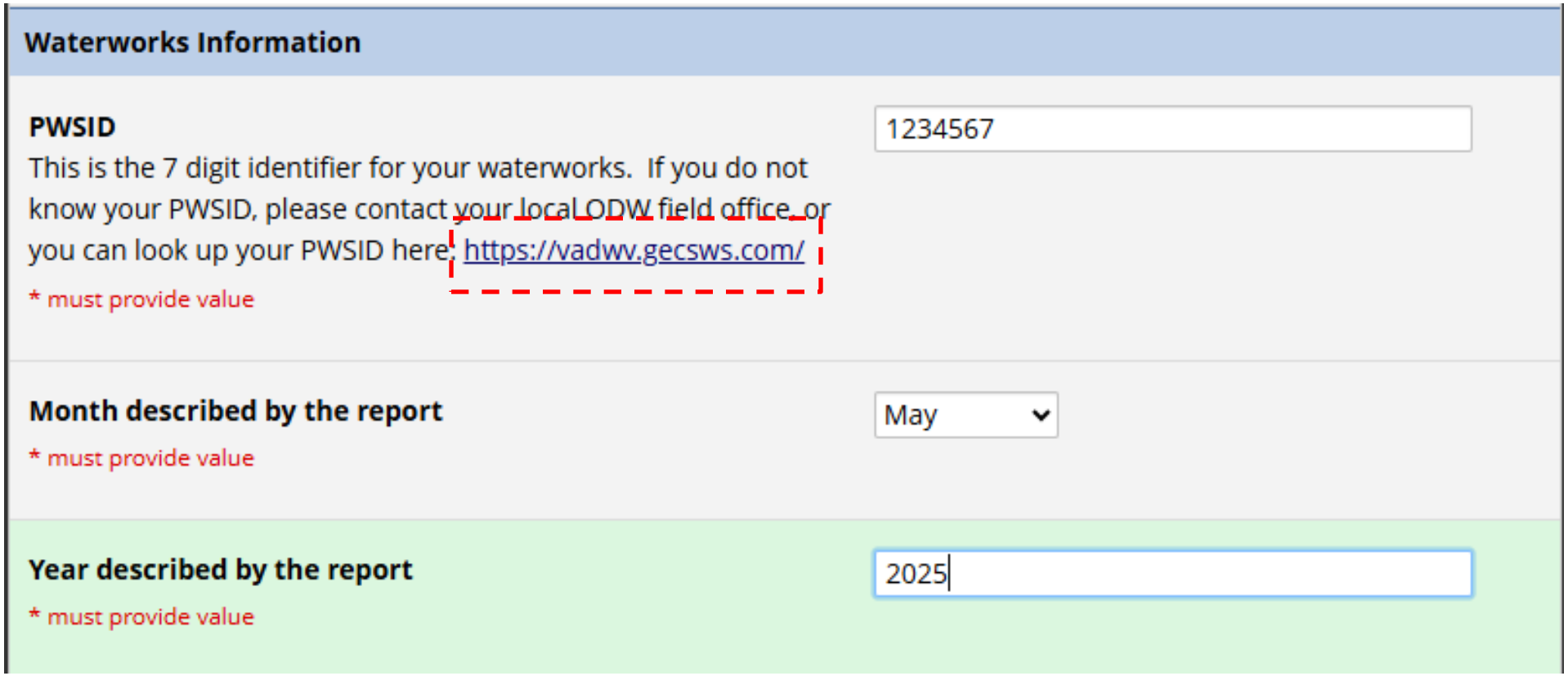
MOR Form

MOR Submital Form

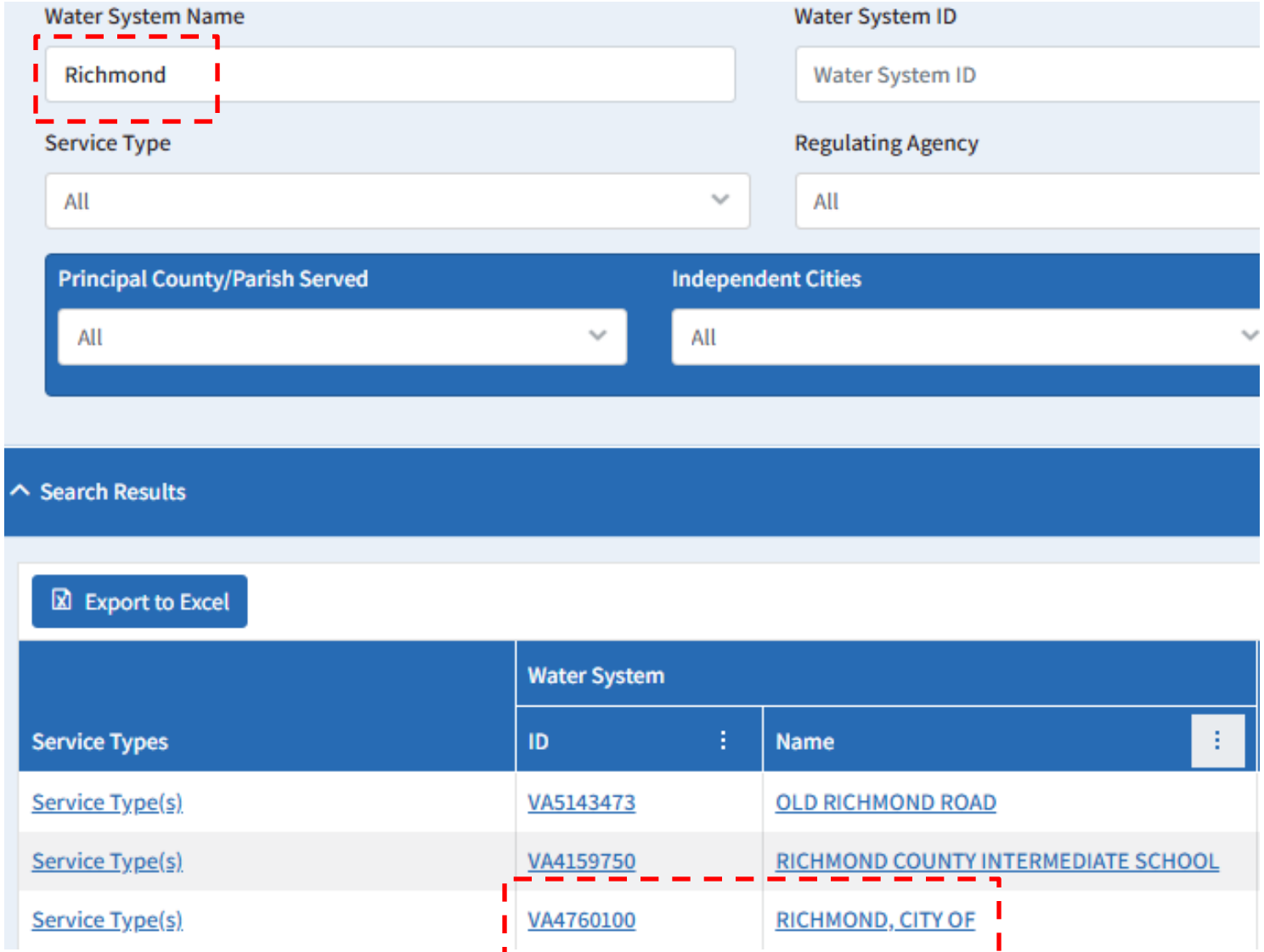
Please use this form to submit your Monthly Operating Report. If you are responsible for more than one waterworks, a separate form will need to be completed for each waterworks. You must submit this report by the 10th day of the month following the month of the report to comply with the Virginia Waterworks Regulations.

Contact Information	
First Name * must provide value	Aaron
Last Name * must provide value	Moses
E-mail	aaron.moses@vdh.virginia.gov

MOR Form


Waterworks Information
PWSID
This is the 7 digit identifier for your waterworks. If you do not know your PWSID, please contact your local ODW field office, or you can look up your PWSID here: https://vadww.gecsws.com/
* must provide value
1234567
Month described by the report
* must provide value
May
Year described by the report
* must provide value
2025

PWSID


Water System Name
Richmond
Water System ID
Water System ID
Service Type
All
Regulating Agency
All
Principal County/Parish Served
All
Independent Cities
All
Search Results
Export to Excel
Service Types
Water System
ID
Name
Service Type(s)
VA5143473
OLD RICHMOND ROAD
Service Type(s)
VA4159750
RICHMOND COUNTY INTERMEDIATE SCHOOL
Service Type(s)
VA4760100
RICHMOND, CITY OF

MOR Form

Did a critical equipment failure or malfunction, or contaminant release occur during the previous month?
Please see ODW guidance defining these terms here:
https://www.vdh.virginia.gov/drinking-water/2-hour-reporting-requirement/

- ○ Yes
- ◉ No

reset

Did any noncritical waterworks equipment failure during the month of the report?
Please see ODW guidance defining these terms here:
https://www.vdh.virginia.gov/drinking-water/2-hour-reporting-requirement/

* must provide value

- ◉ Yes
- ○ No

reset

Describe the noncritical equipment failure or malfunction that could adversely affect water quality, public health, or service continuity. You may alternatively attach a document using one of the "Upload Additional Document (Optional)" fields below and note "See attachment" here.

See attachment

MOR Form

Average daily water production for the reported month in gallons per day (gpd)

100000

***If your waterworks has a metering variance (does not meter water production), enter 0 (zero)**

* must provide value

Upload Monthly Operating Report

* must provide value

Upload file

Upload additional document 1 (Optional)

Upload file

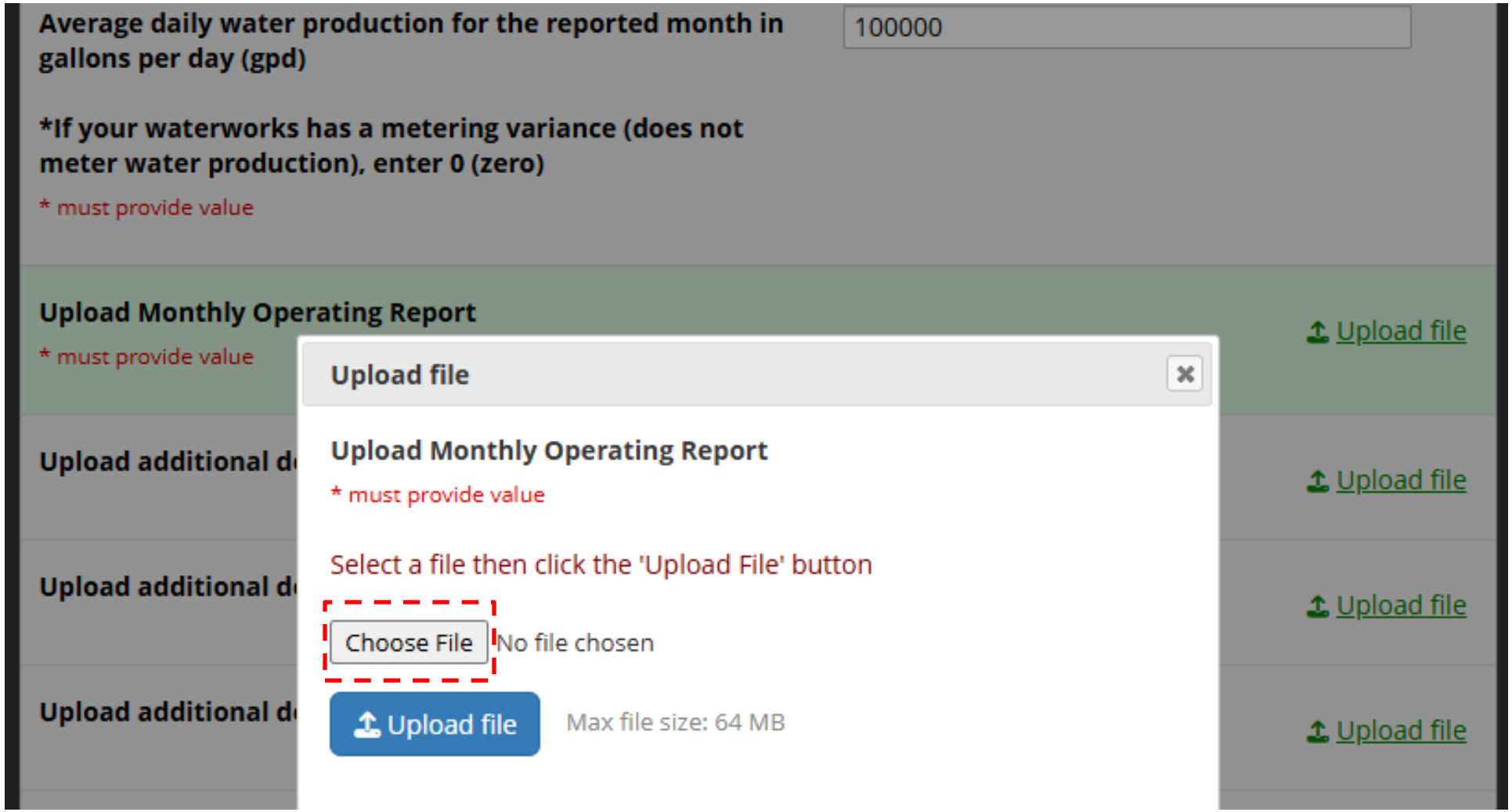
Upload additional document 2 (Optional)

Upload file

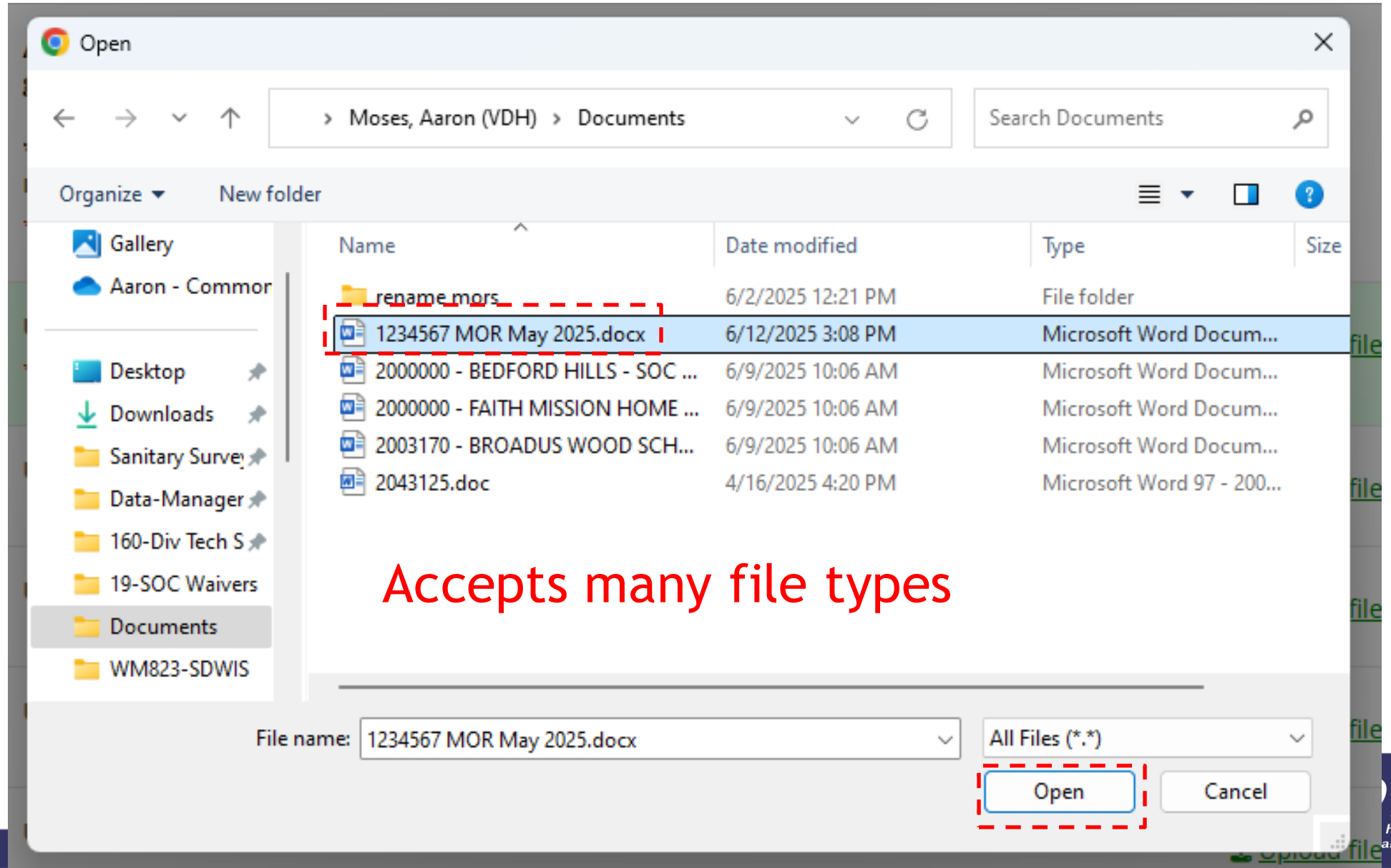
Upload additional document 3 (Optional)

Upload file

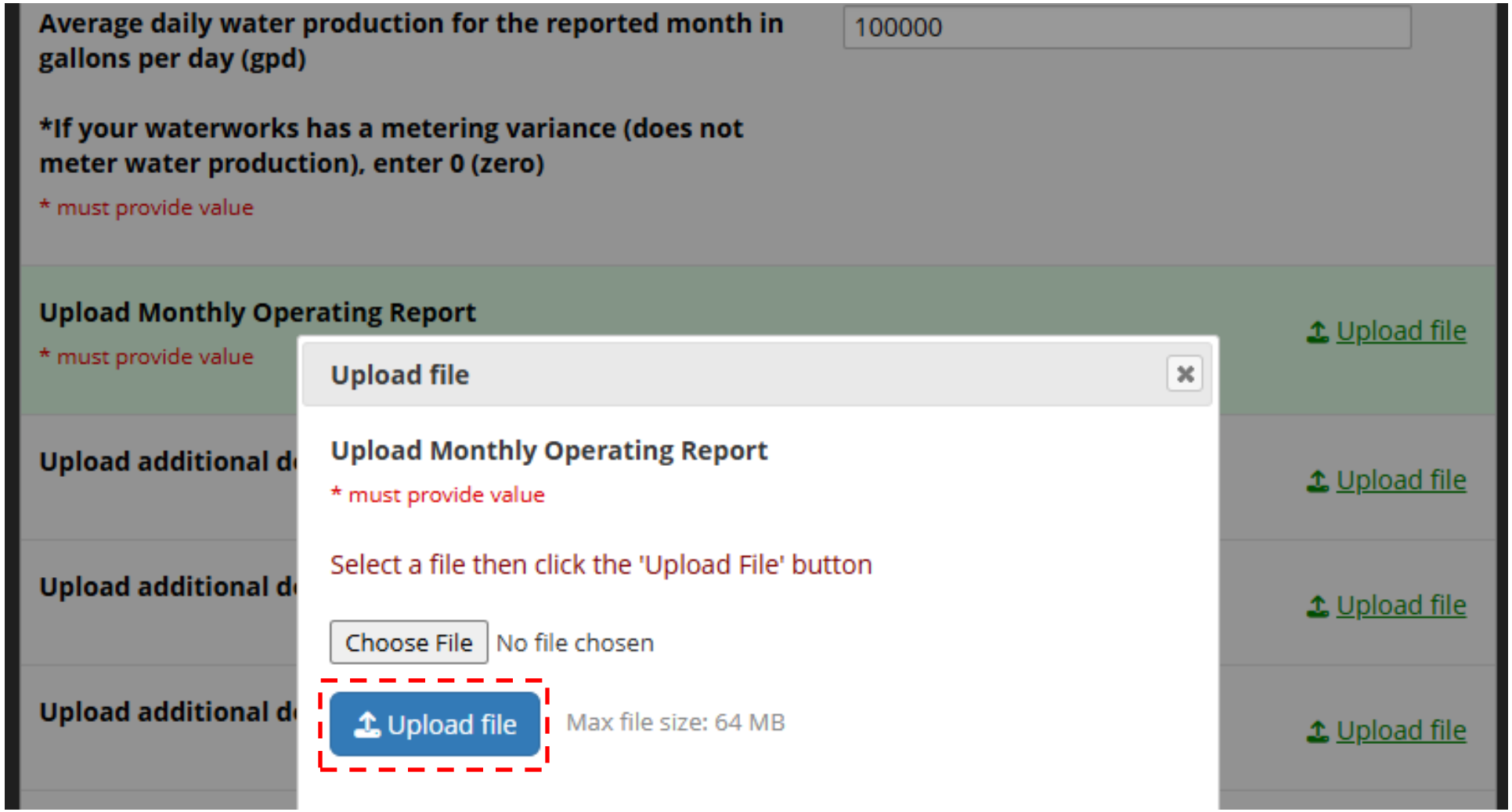
MOR Form


Average daily water production for the reported month in gallons per day (gpd)
100000
*If your waterworks has a metering variance (does not meter water production), enter 0 (zero)
* must provide value
Upload Monthly Operating Report
* must provide value
Upload file
Upload additional d
Upload file
Upload additional d
Upload file
Upload additional d
Upload file
Upload file
Upload Monthly Operating Report
* must provide value
Select a file then click the 'Upload File' button
Choose File
No file chosen
Upload file
Max file size: 64 MB

MOR Form



MOR Form


Average daily water production for the reported month in gallons per day (gpd)
100000
*If your waterworks has a metering variance (does not meter water production), enter 0 (zero)
* must provide value
Upload Monthly Operating Report
* must provide value
Upload file
Upload additional d
Upload file
Upload additional d
Upload file
Upload additional d
Upload file
Upload file
Upload Monthly Operating Report
* must provide value
Select a file then click the 'Upload File' button
Choose File
No file chosen
Upload file
Max file size: 64 MB

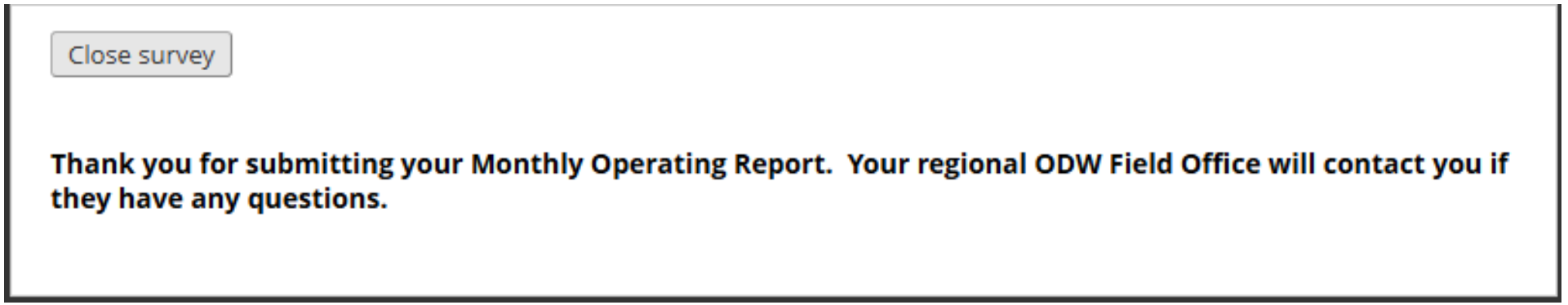
MOR Form

Upload additional document 6 (Optional)	Upload file
Upload additional document 7 (Optional)	Upload file
Upload additional document 8 (Optional)	Upload file
Upload additional document 9 (Optional)	Upload file
Upload additional document 10 (Optional)	Upload file

Submit

Confirmation

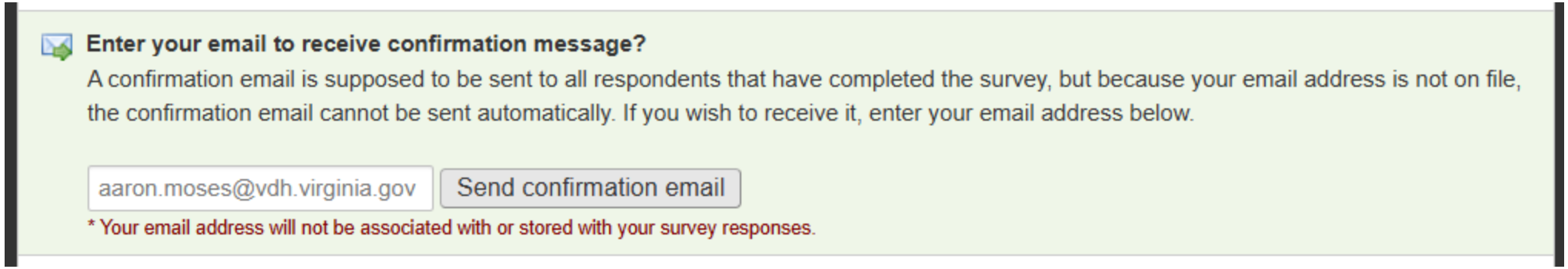
After clicking submit, you will receive the following confirmation message:



You can also request a confirmation

Confirmation

You can also request a confirmation email:



2-Hour Reporting Questions

5 minute break

Lead and Copper Rule Revisions
Lead and Copper Rule Improvements

Robert D. Edelman, PE

Director, Division of Technical Services

Office of Drinking Water

Safe Drinking Water for a Healthy Virginia

Initial Service Line Inventory – Statistics

1,570	Total active community and NTNC waterworks
1,549	Waterworks submitted Initial Service Line Inventories
21	Waterworks without Initial Service Line Inventories
25	Waterworks with lead service lines
3,672	Lead service lines
133	Waterworks with galvanized requiring replacement service lines
10,008	Galvanized requiring replacement service lines
1,685,147	Non-lead service lines
700,549	Unknown material service lines
2,399,376	Total service lines inventoried

Data pulled 8/11/25

Lead and Copper Rule Revisions (LCRR) Effective on October 16, 2024

1. Initial Service Line Inventory
   - Submit to State
   - Must be made publicly available; for systems serving 50,000 and more - available online
2. Notification of Service Line Material and associated reporting
3. Tier 1 public notification for action level exceedance (15 ppb AL until LCRI Compliance Date) and associated reporting
4. Revised health effects language
5. Consumer Confidence Reports

LCRR items that were deferred to LCRI Compliance Date: 11/1/2027

1. Lead action level (10 ppb)
2. Trigger level and associated requirements
3. Changes to sample tiers and sample site selection
4. 5th Liter samples in homes with LSLs
5. Tap sampling frequency
6. WQPs and monitoring
7. Corrosion Control Treatment Options
8. Sanitary surveys must review Corrosion Control Treatment data
9. Find and Fix
10. Mandatory LSL replacement requirements
11. Lead Service Line Replacement Plans & Lead Mitigation (Filters)
12. Small system flexibility options
13. Consumer notifications of work that could disturb LSLs
14. School and child day care sampling program, including list of facilities

Notification of Known or Potential Service Line Containing Lead

40 CFR 141.85(e)

Notification of known or potential service line containing lead:

- Lead Service Line
- Galvanized Requiring Replacement (GRR) Service Line
- Unknown Material Service Line

Due: within 30 days of completion of the inventory (initial)
Frequency: Annual thereafter (calendar year 2025)
New customer: At the time of service initiation
Delivery Method: Mail or another method approved by the State
Community Waterworks: Mail, hand delivery
NTNC Waterworks: Mail, hand delivery, posting
All other methods are approved on a case-by-case basis
Delivery Certification Statement: Available on ODW LCRR Guidance webpage
Due: 30 days following completion (initial inventory) and no later than July 1 (following years) (Due July 1, 2026 for CY 2025)
Frequency: Annual
Attach: Copies of notifications and information materials

New business processes:

1. Annual notification of customers of lead, GRR, unknown service lines.
2. New customer notification of lead, GRR, unknown service lines.

Annual Reporting - Notification of Service Line Materials

40 CFR 141.90(e)(13), 40 CFR 141.90(f)(4)

Annual reporting to the State by July 1 that the system provided notification and delivered lead service line information materials to affected consumers with lead, galvanized requiring replacement, or unknown service lines for the previous calendar year. Water systems shall provide a copy of the notification and information materials to the State.

Delivery Certification Statement: Available on ODW LCRR Guidance webpage

Due: 30 days following completion (initial inventory) and no later than July 1 (following years)

Frequency: Annual

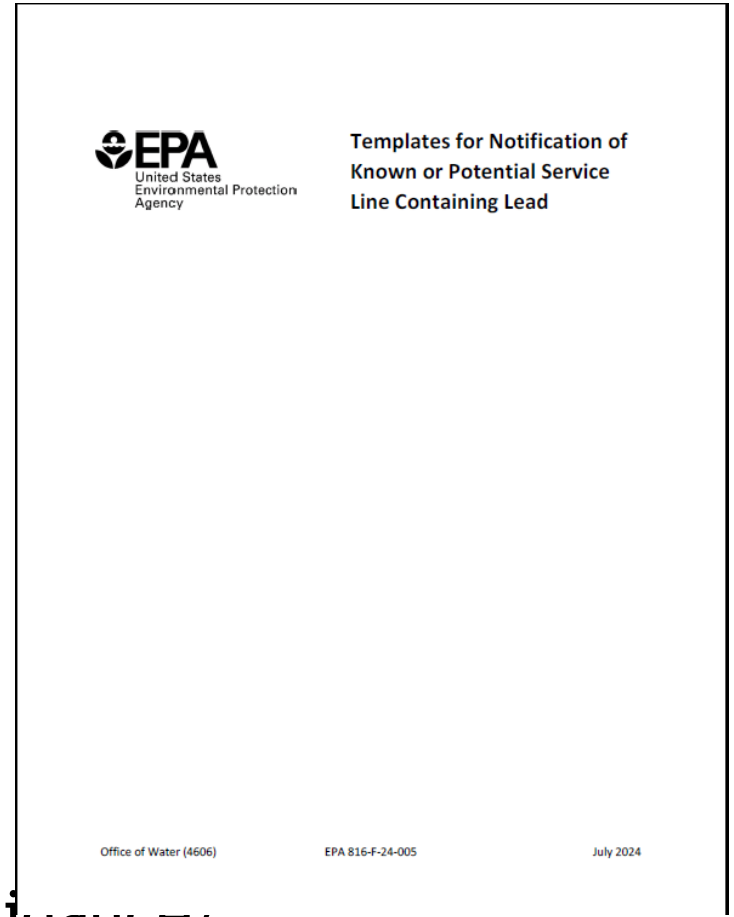
Attach: Copies of notifications and information materials

Templates Available

EPA Templates

VDH Templates

- Links on VDH LCRR Guidance Webpage
- Templates don’t need ODW approval
- Deviations from templates need ODW approval



VDH ODW LCRR Guidance Webpage

https://www.vdh.virginia.gov/drinking-water/lcrr-guidance/

Health Effects Language

40 CFR 141.85(a)(a)(ii)

- Required language for LSL and Lead Status Unknown SLs
- Do not modify this language

Health effects of lead.

Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

Tier 1 Public Notice – Following a Lead Action Level Exceedance

40 CFR 141.201 (a)(3)(vi)

Deliver to: all persons served by the waterworks

Delivery Method: One or more of the following:

- Appropriate broadcast media (e.g., radio and television).
- Posting the notice in prominent locations throughout your water system's service area.
- Hand delivery of the notice to all persons served.
- Another delivery method approved in writing by the State.

Tier 1 Public Notification Reporting

40 CFR 141.201 (c)(3)

Effective: October 16, 2024

Applicable to: All community and non-transient noncommunity waterworks

Template: Public Notice template on LCRR Guidance Webpage

Timing: Within the 24 hours after you learn about the lead ALE:

- Send a copy of Tier 1 Public Notification to the ODW Field Office, as well as to the EPA via email at: LeadALE@epa.gov.

Tier 1 Public Notification Reporting Requirements

40 CFR 141.31

Effective: October 16, 2024

Applicable to: All community and non-transient noncommunity waterworks

Template: Certification Statement on LCRR Guidance Webpage

Timing: Within 10 days after completing the public notification requirements:

- Send a copy of Tier 1 Public Notification plus Certification Statement to the ODW Field Office.

LCRR - Consumer Confidence Reports

40 CFR 141.153 (d)(4) Detected contaminants

Applicable to: Community Waterworks

Effective: October 16, 2024

Applies to: Consumer Confidence Report issued in 2025 and beyond

Reworded

(vi) For lead and copper: the 90th percentile concentration of the most recent round(s) of sampling, the number of sampling sites exceeding the action level, and the range of tap sampling results;

NEW

(xi) The report shall include a statement that a service line inventory (including inventories consisting only of a statement that there are no lead service lines) has been prepared and include instructions to access the service line inventory; and

2027

~~(xii) The report shall notify consumers that complete lead tap sampling data are available for review and shall include information on how to access the data.~~

LCRR - Consumer Confidence Reports

40 CFR 141.154 (d)(1) Required additional health information

Applicable to: Community Waterworks
Effective: October 16, 2024
Applies to: Consumer Confidence Reports issued in 2025 and beyond

(1) A short informational statement about lead in drinking water and its effects on children. The statement must include the following information:
Lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. [NAME OF UTILITY] is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact [NAME OF UTILITY and CONTACT INFORMATION]. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at http://www.epa.gov/safewater/lead.

What should waterworks do to prepare for November 1, 2027?

1. Continue work on service line inventories:
   - Identify unknowns
   - Continue gathering SL material information during normal operations
   - Identify lead connectors 

   - Prepare baseline service line inventory – due 11/1/2027
2. Prepare your Replacement Plan if you have LSLs, GRR or Unknowns
   - due 11/1/2027
3. If you have Lead Service Lines and/or GRR
   - Reach out to the DWSRF - Apply for LSL funding
   - Talk to your customers
   - Make replacements of known LSLs – before 11/1/2027

What should waterworks do to prepare for November 1, 2027?

4. Prepare for lead sampling in schools and child care centers:
   - Prepare list of schools and child care centers in service area.
   - Identify excluded schools (Constructed on or after 1/1/2014)
   - Identify waived schools (already tested)
   - Prepare public outreach materials, begin outreach
5. Corrosion Control Treatment:
   - Prepare for lead action level of 10 µg/L
   - Review CCT performance against operational goals
   - Review past lead and copper tap sample results
6. Tap Sampling
   - Prepare tap sample pool based on new tiers
   - Prepare for standard monitoring if LSLs and/or GRR present
   - Prepare to offer to sample the tap if any for customer with a LSL, GRR or unknown service line requests it

LCRR/LCRI Questions

PFAS

Bailey Davis
Chief of Field Operations
Bailey.davis@vdh.virginia.gov

Office of Drinking Water
Safe Drinking Water for a Healthy Virginia

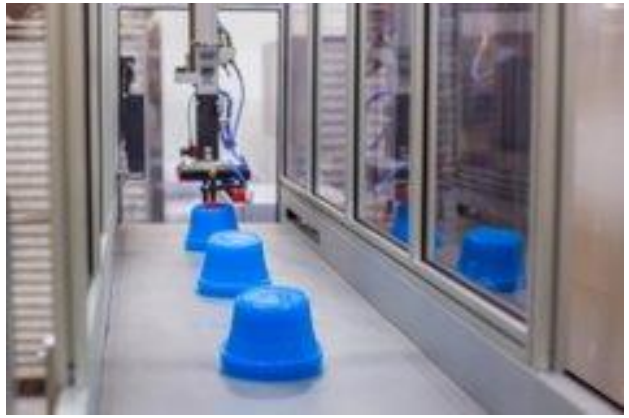
Per- and Polyfluoroalkyl Substances (PFAS)

What are they?

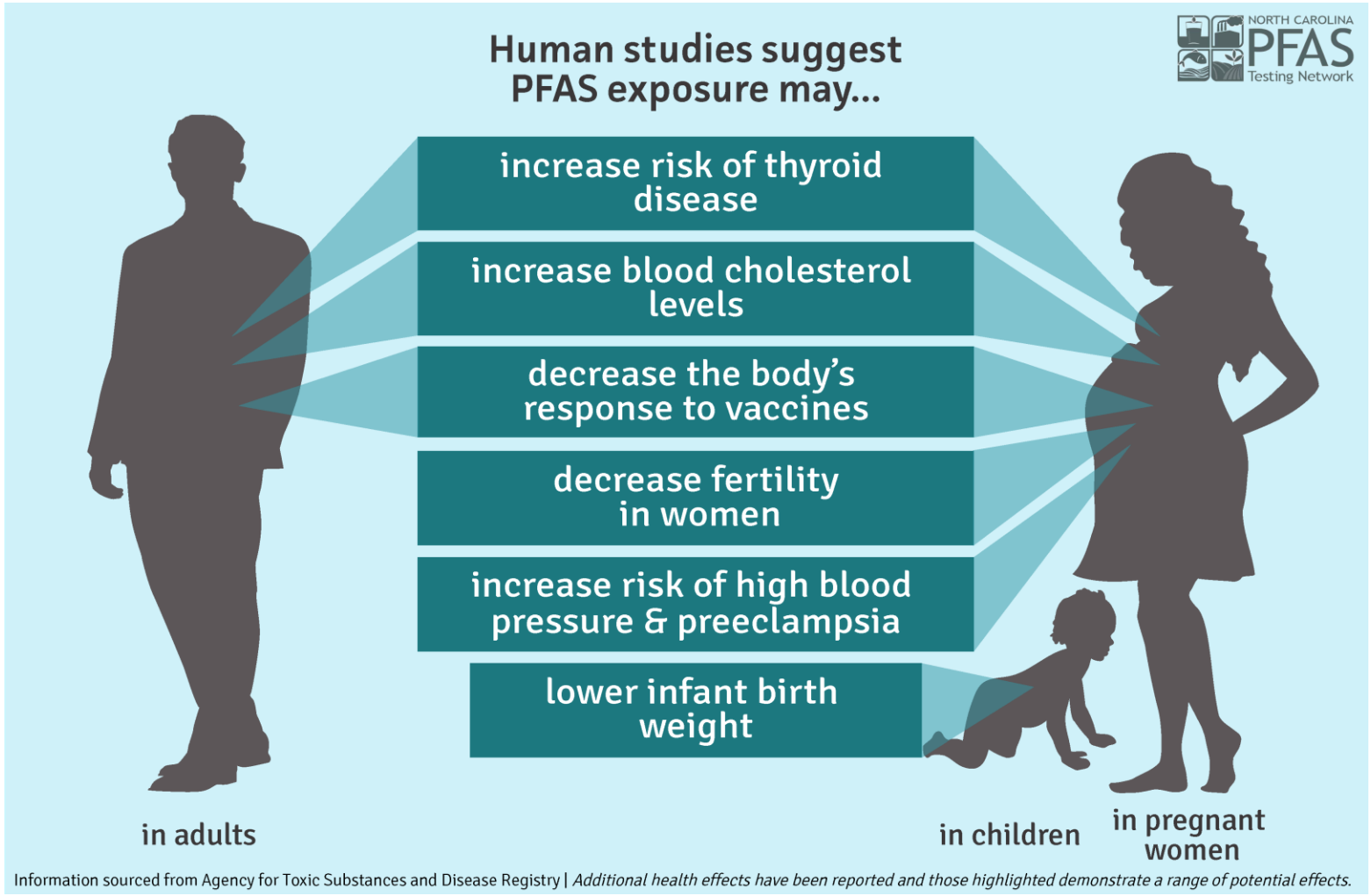
- A group of man-made chemicals created for household and industrial resources
- Water-, grease-, and stain-resistant properties
- Named “Forever Chemicals” because of their slow breakdown

Where are they?

- Industrial Products: Firefighting foams, food packaging, nonstick cookware, wire insulation, and more
- Environmental accumulation: blood of humans and animals globally, and present at low levels our water, air, fish, and soil



What are the health effects?



Information sourced from Agency for Toxic Substances and Disease Registry | *Additional health effects have been reported and those highlighted demonstrate a range of potential effects.*

PFAS Regulations Overview

Rule Title	Per- and Polyfluoroalkyl Substances (PFAS) National Primary Drinking Water Regulation (NPDWR), 89 FR 32532, April 26, 2024, Vol. 89, No. 82
Utilities Covered	The PFAS Rule applies to **all community water systems** (CWSs) **and non-transient noncommunity water systems** (NTNCs).
Key Milestones	**April 26, 2027**: Initial monitoring ends and compliance monitoring begins. **April 26, 2029**: Deadline for compliance with Maximum Contaminant Levels (MCLs).

EPA Announces Final PFAS Rule – April 10, 2024

Chemical	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)
PFOA	0	4.0 ppt
PFOS	0	4.0 ppt
PFHxS	10 ppt	10 ppt
HFPO-DA (GenX chemicals)	10 ppt	10 ppt
PFNA	10 ppt	10 ppt
Mixture of two or more: PFHxS, PFNA, HFPO-DA, and PFBS	Hazard Index of 1	Hazard Index of 1

*Compliance is determined by running annual averages at the sampling point

Maximum Contaminant Level Goal (MCLG): a public health goal calculated within reason
Maximum Contaminant Level (MCL): Legally enforceable regulation
ppt = parts per trillion

Implementation: Timeframes for Water Systems

To be completed by April 27, 2027:

- Initial monitoring – currently happening

Starting **three years** following rule promulgation (2027 – 2029):

- Results of initial monitoring must be shared with the public
- Regular monitoring for compliance must begin
- Public notification for monitoring and testing violations

Starting **five years** following rule promulgation (starting 2029)

- Comply with all MCLs
- Public notification for MCL violations

Initial Monitoring – Due by April 27, 2027

Surface Water Systems
serving all population sizes

- Quarterly within 12-month period
- Samples collected 2 to 4 months apart.

Groundwater Systems
serving > 10,000 customers

- Quarterly within 12-month period
- Samples collected 2 to 4 months apart.

Groundwater Systems
serving ≤ 10,000 customers

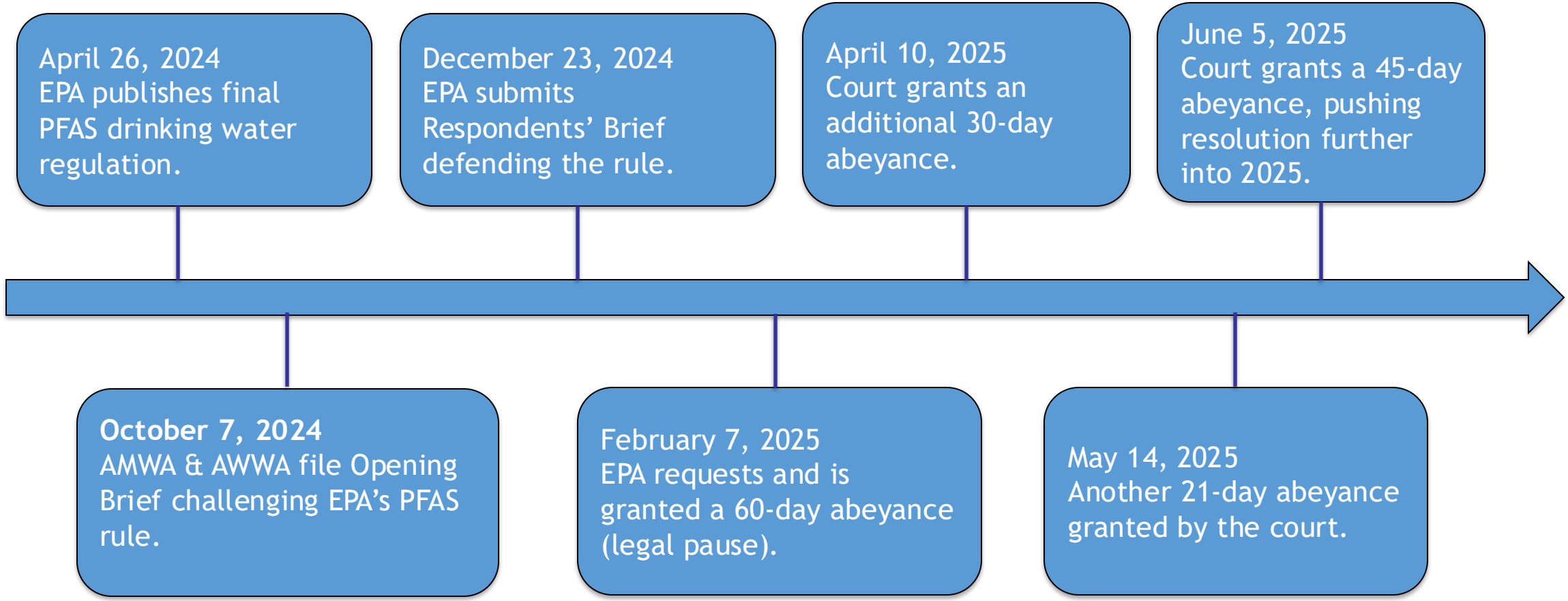
- Twice within 12-month period
- Samples collected 5 to 7 months apart.

States can allow systems to use previously collected monitoring data:

- EPA Methods 533 or 537.1
- As part of UCMR 5
- State monitoring
- Data to be reviewed and approved on a case-by-case basis

VDH has developed guidance for laboratory reporting through CMDP
Guidance will be updated and posted based on recent EPA decision

Federal PFAS Litigation & Timeline

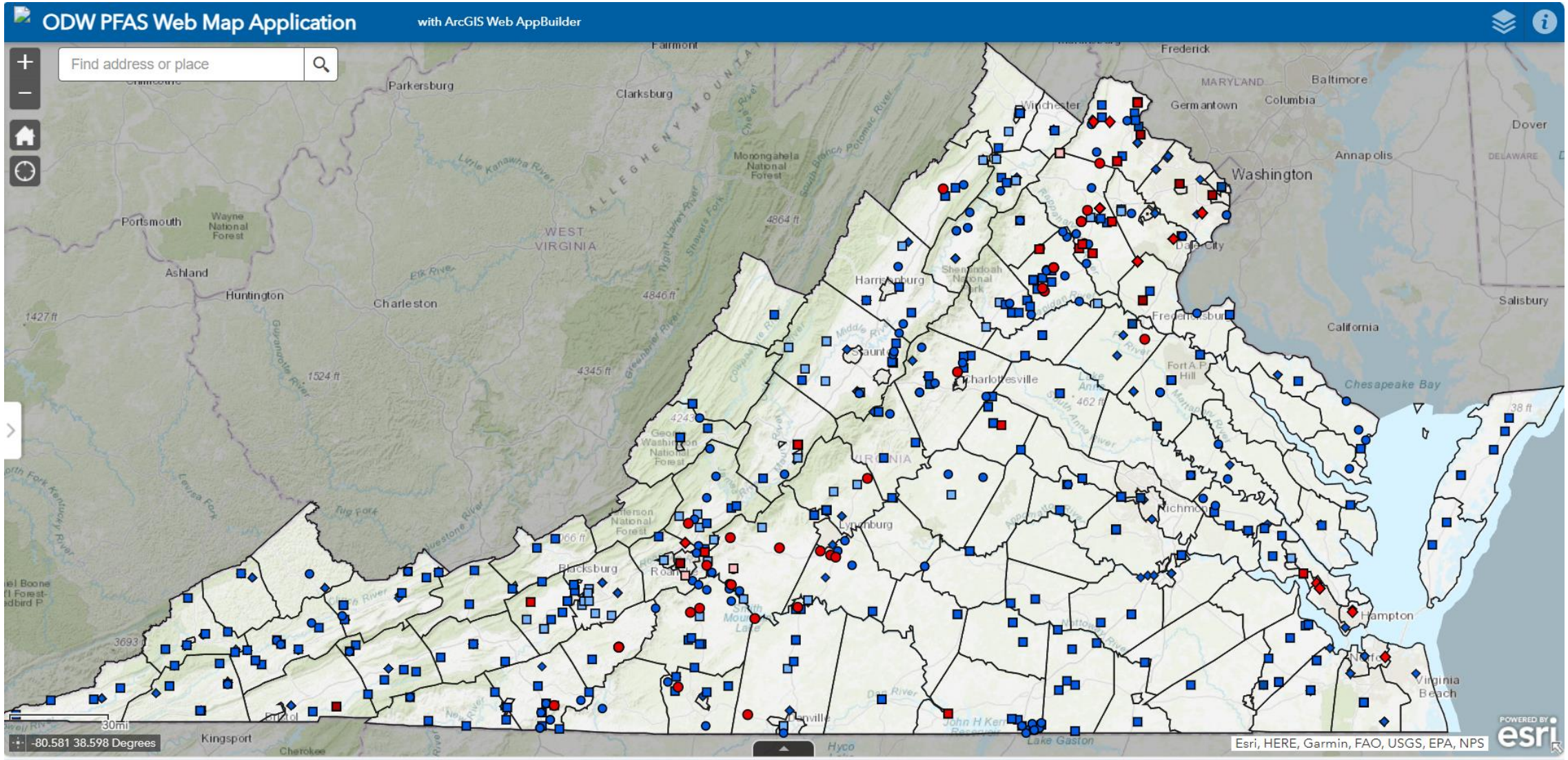


AWWA - American Water/Wastewater Works Association
AMWA – Association of Metropolitan Water Agencies
EPA – US Environmental Protection Agency

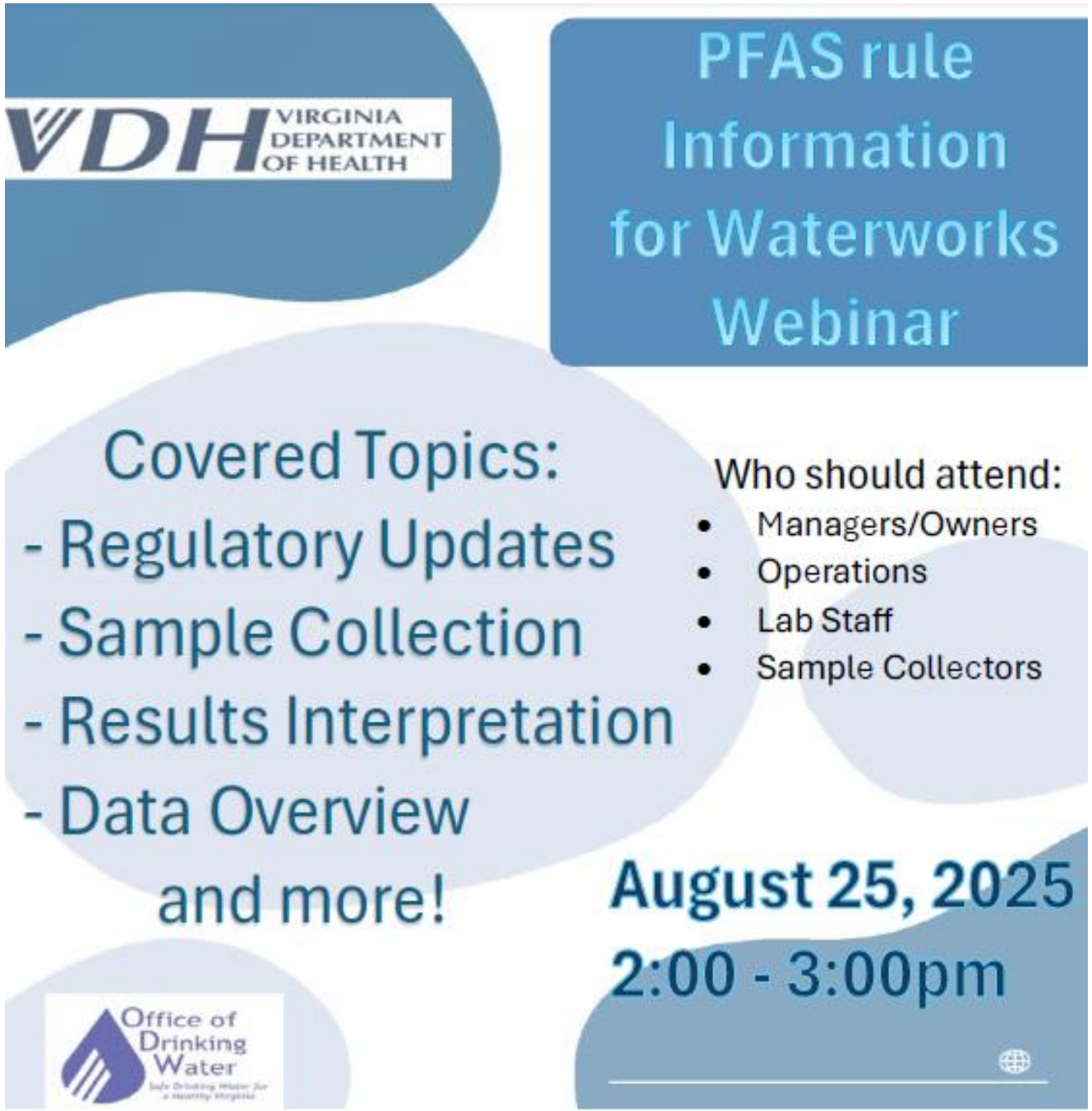
5/14/25 - EPA Announces Changes in the PFAS Rule

- **Rescind** regulations for PFHxS, PFNA, HFPO-DA (Gen-X), and the Hazard Index, which includes PFBS
- Regulation of PFOA and PFOS remain unchanged.
- Extend Compliance Deadline f**rom 2029 to 2031**
- Establish a federal exemption framework
- Launch the PFAS OUTreach initiative (PFAS OUT) for small and rural communities. Add polluter accountability measures. Enhance technical help.

PFAS Data at www.vdh.virginia.gov/drinking-water/pfas



VDH VIRGINIA DEPARTMENT OF HEALTH
To protect the health and promote the well-being of all people in Virginia.



ODW PFAS Webinar August 25th 2 – 3:00 PM

PFAS Questions

5 minute break

Drinking Water Fluoridation Regulatory Update

Robert D. Edelman, PE

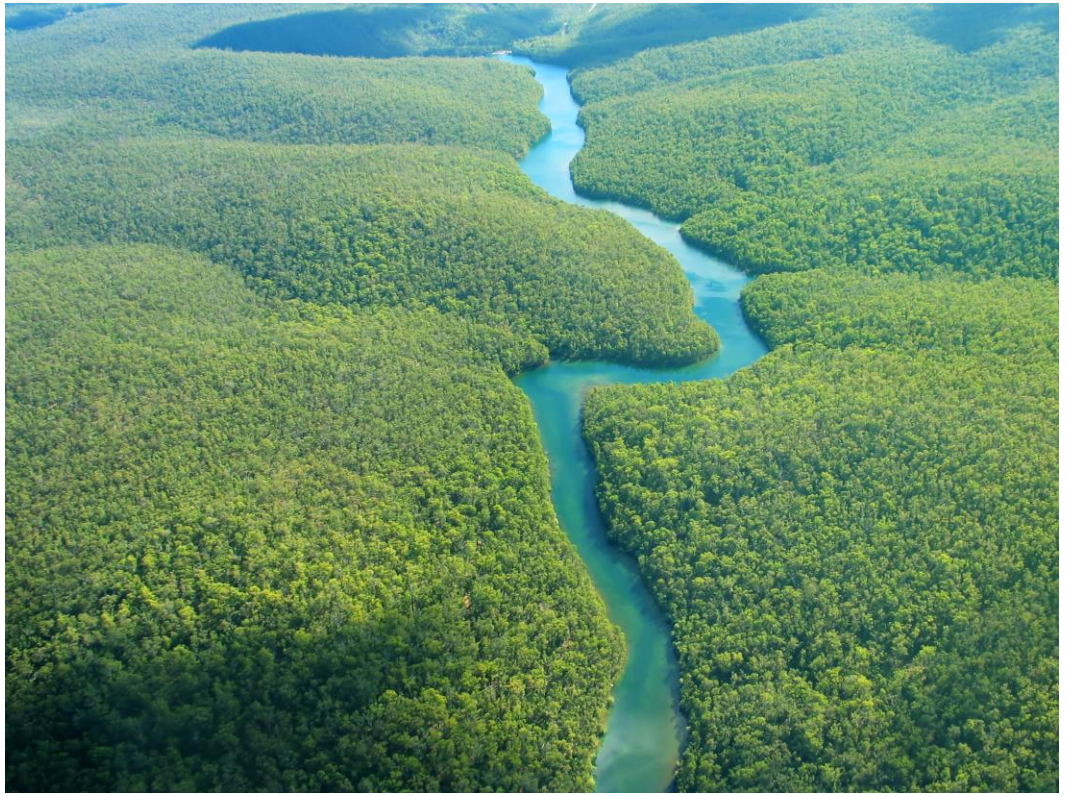
Director, Division of Technical Services

Office of Drinking Water

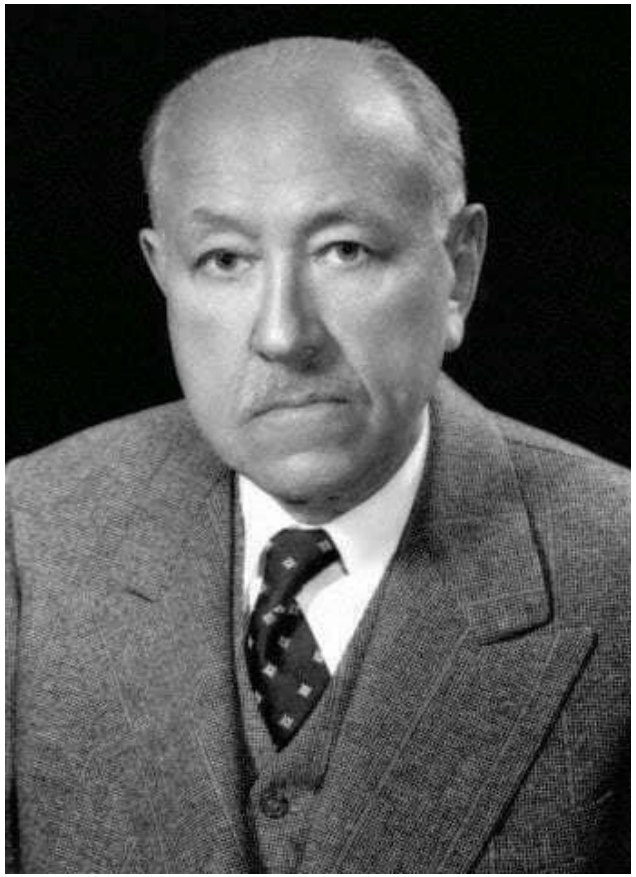
Safe Drinking Water for a Healthy Virginia

What is Fluoride and Fluoridation?

Fluoride is a **naturally occurring mineral**, found in lakes, groundwater, and foods



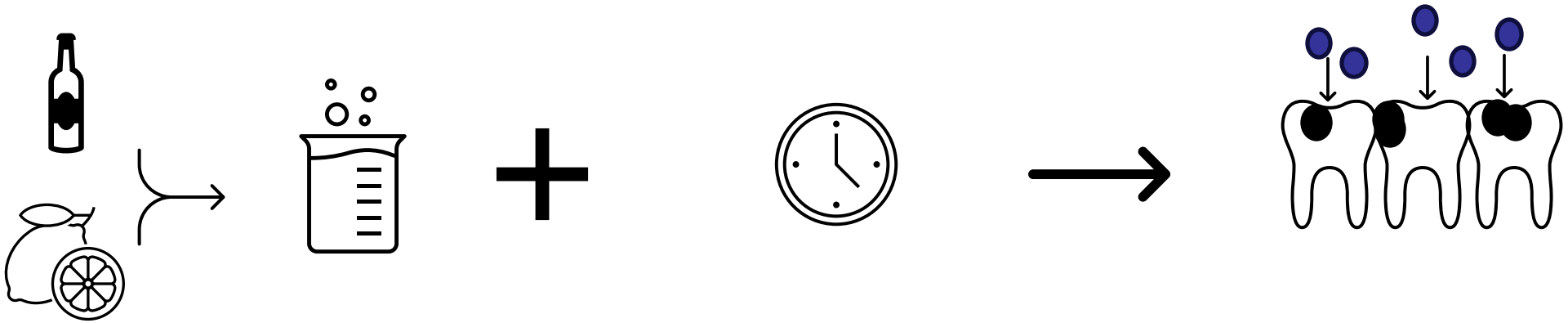
The Discovery of Fluoridation



Dr. Fredrick McKay

“Colorado Brown Stain” or
Dental Fluorosis

Mechanism of Tooth Decay



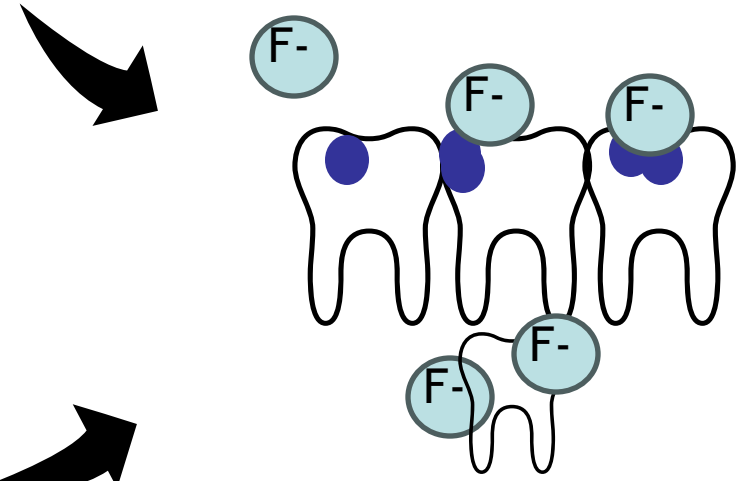
Acid + Acidic foods

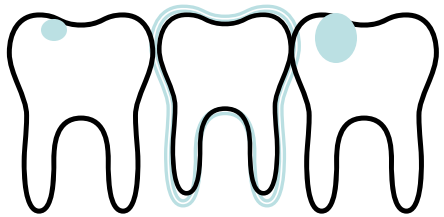
Time

Tooth decay

Fluoride delivery

Fluoride baths teeth when drinking water, helping remineralize them throughout the day

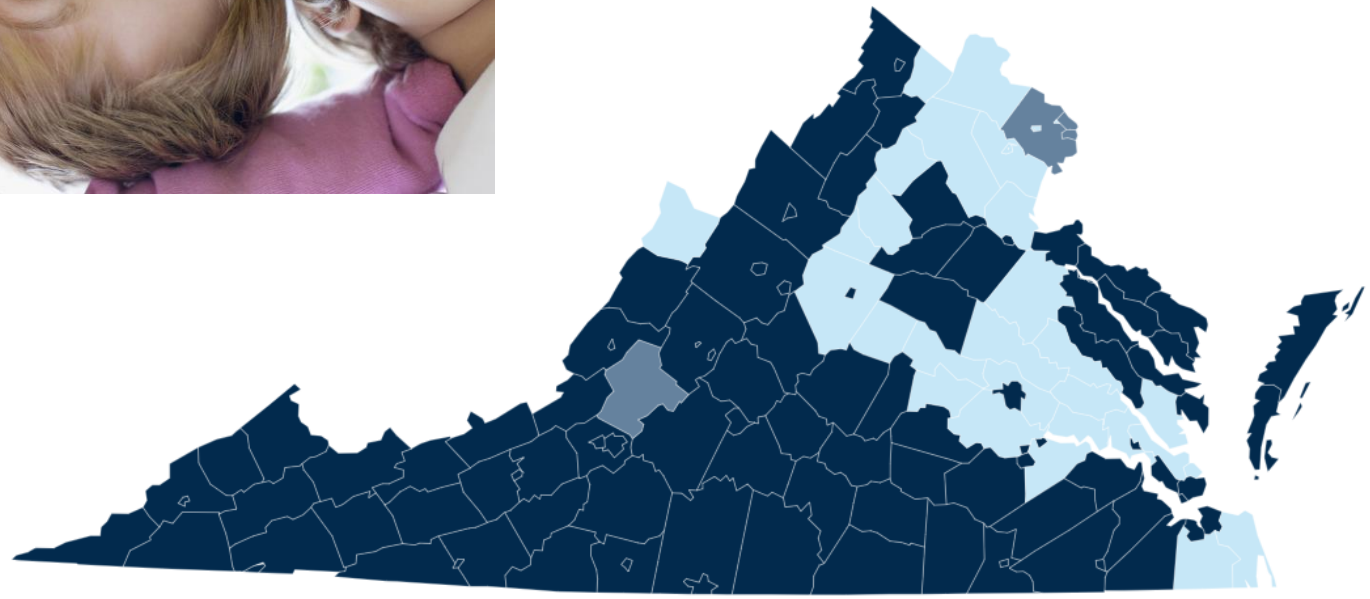




As a result, teeth are **stronger** and **slower** to decay, and **re-mineralized**

Fluoride is taken in by the teeth below the gums, making them stronger

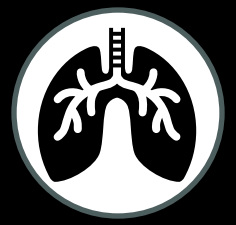
Why does this matter?



Oral health is overall health

Endocarditis

It most often happens when germs from another part of the body, such as the mouth, spread through the blood and attach to certain areas in the heart.



Pneumonia

Individuals can aspirate germs from their mouth and develop pneumonia and other respiratory illnesses.

Pregnancy & Birth

Gum disease has been linked to premature birth and low birth weights.

Pregnant women are also more prone to gum disease.

Diabetes

Diabetes can increase the risk and severity of gum disease, and gum disease can, in turn, make it harder to control blood sugar levels in people with diabetes.

National Primary Drinking Water Regulations

- MCLG - 4.0 mg/l (40 CFR § 141.51) (Table 546.1)
  - Maximum contaminant level goal (MCLG) - maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur and that allows for an adequate margin of safety. Maximum contaminant level goals are nonenforceable health goals.
- PMCL - 4.0 mg/l (40 CFR § 141.62) (Table 340.1)
  - "Maximum contaminant level" or "MCL" means the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
  - PMCL only applies to community waterworks

National Secondary Drinking Water Regulations

SMCL - 2.0 mg/l (40 CFR § 143.3) (Table 340.1)

- "SMCL" means the secondary maximum contaminant level of a contaminant. SMCLs are based on aesthetic qualities related to the public acceptance of drinking water.
- "Maximum contaminant level" or "MCL" means the maximum permissible level of a contaminant in potable water that is delivered to any consumer of a waterworks. MCLs are set as close to the MCLGs as feasible using the BAT. MCLs may be either "primary" (PMCL), meaning based on health considerations, or "secondary" (SMCL), meaning based on aesthetic considerations.

Virginia Waterworks Regulations

12VAC5-590-510. Acceptable operating practices.

D. The board recommends that all community waterworks in the Commonwealth deliver the optimum fluoride ion concentration as determined by the U.S. Department of Health and Human Services

E. A waterworks owner shall provide the commissioner at least 90 days prior written notice of the intent to initiate or discontinue a program to provide the optimum fluoride ion concentration.

12VAC5-590-540. Public notices.

(12VAC5-590-540 A 1 c)

At least 90 days before initiating or discontinuing a program to provide the optimum fluoride ion concentration, a waterworks owner shall deliver written notice to the waterworks' consumers. Notice to consumers shall be consistent with 12VAC5-590-540 C 2 d.

Fluoride Compliance Monitoring

Part of Inorganics Panel

- Groundwater – one each compliance period (1x/3 years)
- Surface water – annually

Split Sample

- Monthly for comparison to ensure validity of waterworks lab analysis.
- Not a compliance sample.

Recent Fluoride Events

EPA's Fourth Six-Year Review was published on June 23, 2024

- EPA decided not to revise any regulations, including fluoride
- Fluoride was in the category of new information, but no revision recommended due to emerging data

The National Toxicology Program Report - August 2024

- Concluded with "moderate confidence" that fluoride exposure above 1.5 milligrams per liter is associated with lower IQ in children.
- More research is needed to better understand if there are health risks associated with exposure to lower fluoride concentrations.

Federal District Court - Northern District of California – September 2024

- Concluded fluoridated water is an "unreasonable risk".
- Ignored the NTP report's conclusions do not apply to lower fluoride levels.
- Instructed EPA to issue a new rule about fluoride in drinking water.

The New Administration

Significant uncertainty with next steps for fluoride with the new Administration

1/29 - EPA Administrator Lee Zeldin approved and sworn in

- Jess Kramer - incoming Assistant Administrator for Water

1/29 – Challenging Senate hearing for Robert F. Kennedy Jr. as nominee for HHS Secretary

- Robert F. Kennedy Jr. said the Trump White House would advise against water fluoridation on January 20
- That action didn't occur – doesn't mean it won't happen later

Multiple potential actions by either EPA, HHS, or CDC (next slides)

Latest Activities

Late March - Utah passed legislation to ban fluoride in drinking water

- Effective May 7, 2025
- Fluoride pump failure in Sandy, Utah in 2019 released excess fluoride

April 7 - EPA announces a review of fluoride health effects

- Timing to complete this review TBD

April 7 - HHS announces plan to stop CDC's recommendation for community water fluoridation (CWF)

- CWF program at CDC terminated
  - CWF website still operational https://www.cdc.gov/fluoridation/index.html

Latest Activities (cont.)

May – Florida legislation signed to ban fluoridation

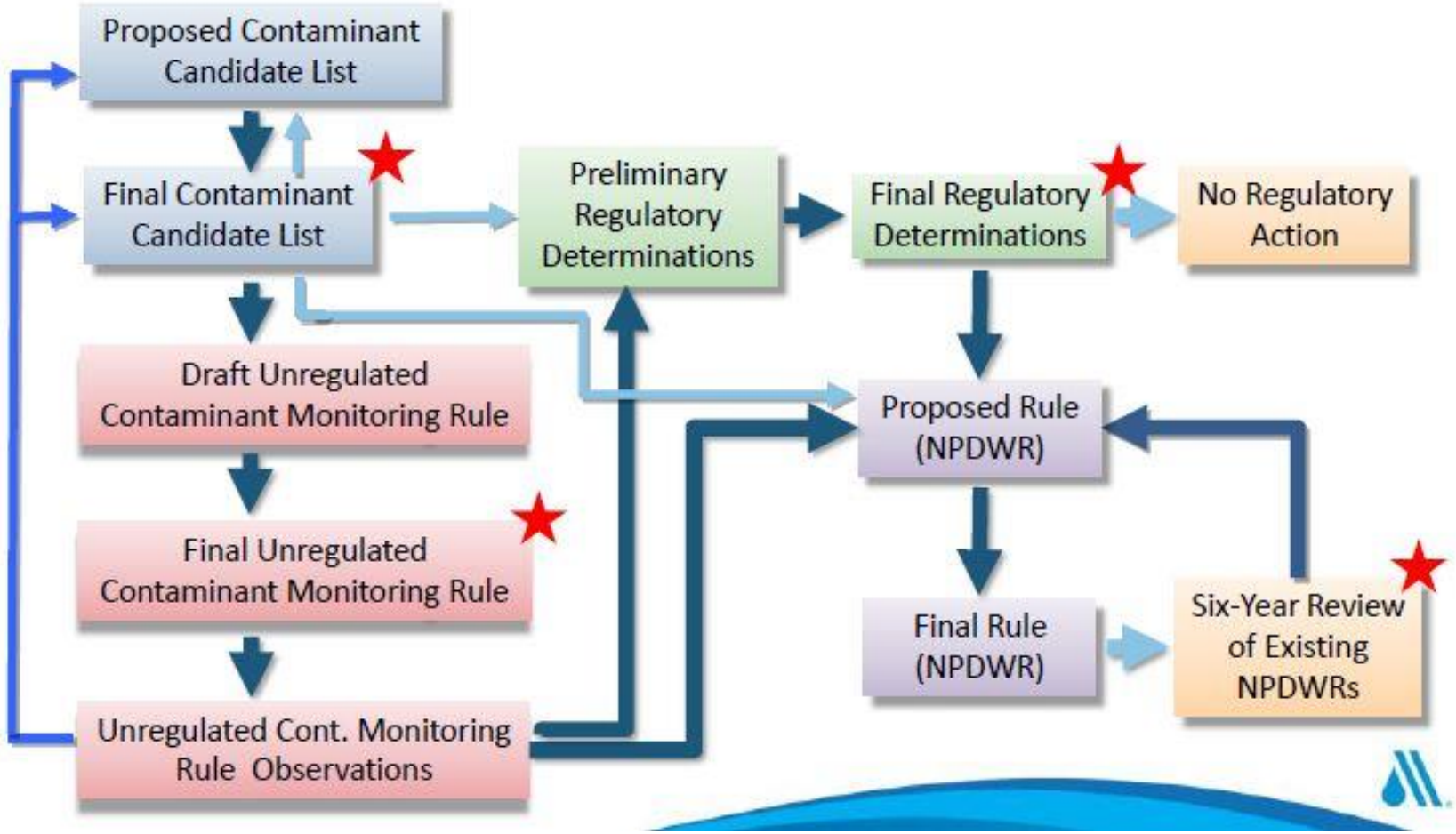
- Other discussion in other states (LA, TN, ND)

CDC – no timeline yet for change in CWF fluoridation

EPA – no timeline yet for review of fluoride health effects and both the MCL & SMCL

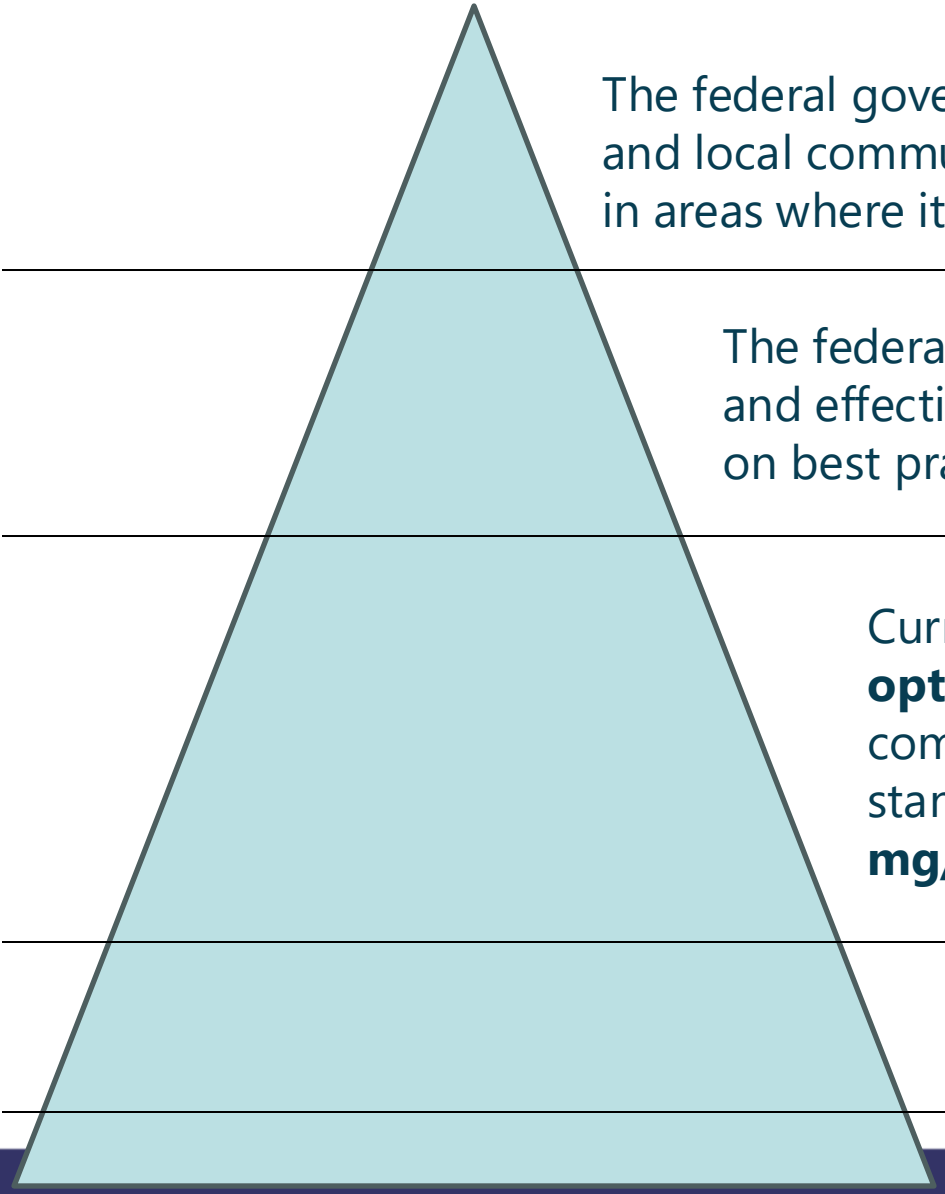
- Lead and PFAS and other issues are absorbing EPA's decision-making

EPA Regulatory Process



From Steve Via, "Regulatory Update", AWWA webinar, Dec 2016

Who sets the standards



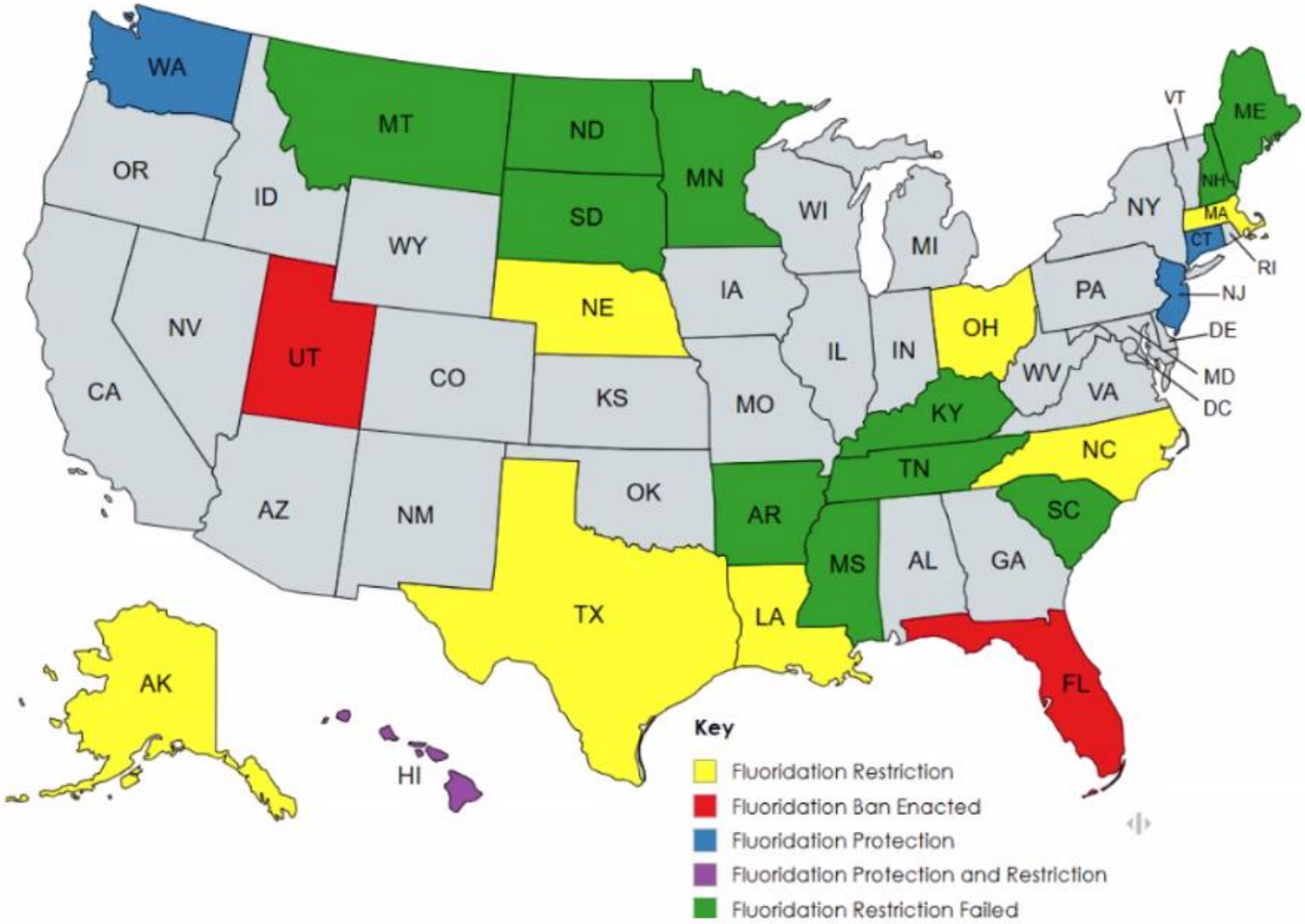
The federal government **does not have legal authority** to require state and local communities to fluoridate their water, nor to remove fluoridation in areas where it is already policy.

The federal government **reviews data and other evidence** on the safety and effectiveness of fluoridation, issuing recommendations and guidance on best practices for state and local decision-makers to consider.

Current HHS/USPHS guidelines (last updated in 2015) recommend an **optimal fluoride concentration of 0.7 mg per liter (mg/L)** in community water systems (CWS) while EPA regulations set the primary standard for the **maximum level of fluoride in water systems at 4.0 mg/L** and the secondary**, non-enforceable standard at 2.0 mg/L.**

Decisions to fluoridate are made at the state and local levels.

State Legislative Landscape



State Actions around Fluoride

Specifying concentration

- Changing language to include HHS regulations

Requiring notification

- Requiring public water supply operators or owners to notify customers at least 90 days before taking any action

Requiring fluoride in systems of certain sizes

- Currently, 12 states have legislation following this

Prohibiting fluoride outright

- See Utah and Florida

Grants for Screening

Fluoride Questions

Consumer Confidence Report Rule (CCR3) Revisions (Effective 2027)

Community Water Systems (CWSs) ≥ 10,000 people:

- **Two Consumer Confidence Reports (CCRs) per year:**
  - **First CCR:** Due by **July 1st** – covers **full previous calendar year.**
  - **Second CCR:** Due by **December 31st** – provides **updated annual summary.**
    - Must include a **6-month update** if:
      - There were **violations**,
      - **Action level exceedances**, or
      - **UCMR results** were received.

CWSs < 10,000 people:

- **One CCR per year** – due by **July 1st.**

Consumer Confidence Report Rule (CCR3) Revisions (Effective 2027)

Direct delivery to customers

- **Deliver by mail or an electronic delivery method**
- **CWSs using electronic delivery must provide a paper copy to customers upon request**

Good Faith Delivery Examples of good faith efforts added in the revised rule include:

- **Bulk delivery of postcards with direct links to reports.**
- **Opt-in notification system to send email and/or texts notifying the availability of the CCRs.**
- **Advertise the availability of the reports on social media.**
- **Holding a public meeting to educate community members.**

Consumer Confidence Report Rule (CCR3) Revisions (Effective 2027)

Certification

- **CWSs must submit a copy of the report and certification to the primacy agency no later than 10 days after the CWS is required to distribute the reports to customers.**

Recordkeeping

- **CWSs serving 50,000 or more people must post its current year's report to a publicly accessible site on the Internet.**
- **Any CWSs posting their CCR on a website must maintain its availability for at least 3 years.**

Definitions

- **The revised rule adds definitions of contaminant, pesticide, and herbicide.**

Consumer Confidence Report Rule (CCR3) Revisions (Effective 2027)

Summary

- **CWSs must include a summary of the key information at the beginning of the reports. Examples of key information includes CWS contact information and, when applicable, a brief description of violations and a note that public notices are included in the CCR.**

Translation Access

- **In communities with a large proportion of consumers with limited English proficiency CCRs must contain either information where consumers can obtain a translated copy of the report or assistance in the appropriate language.**
- **For CWSs serving over 100,000 people, CWSs are required to develop language access plans.**

Consumer Confidence Report Rule (CCR3) Revisions (Effective 2027)

Accessibility

- **CWSs must make a reasonable effort to provide the reports in an accessible format to anyone who requests an accommodation.**

Arsenic and Nitrate

- **Revised educational information on health effects of nitrate and arsenic for CWSs that detect the contaminants above half the MCL but are not in violation of the MCL.**

Revised Total Coliform Rule

- **Updated standard language for the Revised Total Coliform Rule compliance in the reports.**

Consumer Confidence Report Rule (CCR3) Revisions (Effective 2027)

Lead Action Level Exceedances

- **CWSs that have exceeded the lead action level during the monitoring period covered by the CCR must clearly identify the exceedance in the contaminant data section. In addition, they must include an explanation of the exceedance, the steps consumers can take to reduce their exposure to lead in drinking water, and a description of any corrective actions the CWS has or will take to address the exceedance.**

Explanation of Corrosion Control Efforts

- **CCRs must include template language to explain their corrosion control efforts.**

Other Rules

EPA is working on:

- Microbial and Disinfection Byproducts Rule – Draft due in 2027
- Chromium (Total/Hexavalent Chromium) –
  - Final human health assessment for chromium-6
  - Determine if a new drinking water regulation or revision to current standard is warranted
- Perchlorate
  - Proposed National Primary Drinking Water Regulation – 11/21/2025
  - Final Regulation - 5/21/2027
- Fluoride
  - EPA's Fourth Six-Year Review -June 23, 2024 - EPA decided not to revise any regulations, including fluoride
  - September 2024 – Court ruled fluoridation is an "unreasonable risk" to children's health
  - April 7 – EPA announces review of fluoride health effects

Other Rules

Water System Restructuring Assessment Rule (WSRAR)

Draft – May 23, 2024

AWIA of 2018 amended the SDWA to:

- Require EPA to issue this rule.
- Provide states with a new authority to mandate restructuring assessments.

The proposed regulation includes three main elements:

1. a new mandatory assessment authority for states;
2. requirements for performing mandatory restructuring assessments to help the water system sustainably provide safe, affordable drinking water; and
3. eligibility requirements for three incentives for public water systems to restructure.

CCR/Other Rule Questions

Additional Questions