

WATERWORKS ADVISORY COMMITTEE MEETING AGENDA

Fairfield Library, 1401 N. Laburnum, Richmond VA 23223

In person meeting

December 13, 2023; 10:00 AM to 12:30 PM

Subject	Time
<ul style="list-style-type: none">• Welcome message, establishment of quorum – Dwayne Roadcap	10:00 – 10:05 AM
<p style="text-align: center;">Waterworks Advisory Committee Administrative Matters</p> <ul style="list-style-type: none">• Introduction and review of agenda items – Chair David Van Gelder• Review and adoption of minutes from September’s meeting – Grant Kronenberg	10:05 – 10:10 AM
<p style="text-align: center;">Development of Amendments to the Waterworks Regulations</p> <ul style="list-style-type: none">• Updates to proposed amendments and establishment of WAC subcommittees – Jane Nunn	10:10 – 11:40 AM
<p style="text-align: center;">Drinking Water Program Discussion</p> <ul style="list-style-type: none">• Staffing update – Dwayne Roadcap• Compliance, Enforcement & Policy update – Grant Kronenberg<ul style="list-style-type: none">- ETT Report- Enforcement Manual- Waterworks Operation Fee Regulations• PFAS Phase 2 testing – Bob Edelman• Lead and Copper Rule Revisions and Lead and Copper Rule Improvements – Bob Edelman• Centralized Plan Review, Drinking Water Viewer implementation update – Aaron Moses• Training changes with new Training Manager – Barry Matthews/Julie Floyd• Emergency response updates, including cybersecurity – Jessica Coughlin• School and Childcare Lead Testing and Reduction Program – Kendall Scott• ODW budget and legislative session – Dwayne Roadcap	11:40 AM – 12:15 PM

Public Comment Period	12:15 – 12:25 PM
Other Business	12:25 – 12:30 PM
<ul style="list-style-type: none"> Planned upcoming meeting dates: March 13, 2024 (in person), June 12, 2024 (all virtual), September 18, 2024 (in person), December 11, 2024 (all virtual) 	

The method by which the Waterworks Advisory Committee chooses to meet shall not be changed unless the Waterworks Advisory Committee provides a new meeting notice in accordance with Code of Virginia § 2.2-3707.

Information and Protocol for Joining the Meeting Electronically

Access to the meeting can be achieved via computer, phone or mobile device with the meeting link below:
<https://vdhoep.webex.com/vdhoep/j.php?MTID=m045c3b6c6de0de0800fd3fe6fdcf2b58>

If accessing via a mobile device, you will need to download the WebEx Meet app prior to joining the meeting.

When joining the meeting, please use the meeting number and password below:

Meeting number (access code): 2632 349 7394

Meeting Password: JEmmm3eDa43

You can use your computer audio or join via telephone by calling [1-844-992-4726](tel:1-844-992-4726) United States Toll Free.

Please log into the meeting at least 10 minutes before the meeting begins.

If you have problems logging in or if there is any interruption in transmission, please call Kris Latino at 804-664-4403.

Please sign into the meeting and identify yourself so we can verify that you are attending the meeting.

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DRAFT

Waterworks Advisory Committee Meeting Minutes

In Person: Fairfield Library, 1402 Laburnum Ave, Richmond VA 23223

10:00 am, Wednesday, December 13, 2023

Members Present: David Van Gelder (Chair), Water Operator; Jesse Royall, Jr., Sydnor Hydro, Inc.; Bailey Davis, DCLS; Skip Harper, Virginia Plumbing & Mechanical Inspectors Association; Steve Herzog, PE, VWEA; Russ Navratil, VA AWWA; Chris Pomeroy, Virginia Municipal Drinking Water Association; Ignatius Mutoti, VSPE; Andrea Wortzel, Mission H2O; Geneva Hudgins, VA-AWWA; Ben Barber, VA Health Catalyst

Members Absent: Whitney S. Katchmark, PE Principal Water Resources Engineer; Tom Fauber, VA ABPA; Caleb Taylor, VA Municipal League; Anthony Morris, DEQ; Mark Estes, VRWA; Joey Hiner, VA SERCAP (attended virtually).

Stakeholders: Christopher Gill, William J. Mann, Jr., MD, Chris Harbin, Ivy Ozman, Katherine Coffey

Office of Drinking Water (ODW) Staff: Dwayne Roadcap, James Reynolds, Barry Matthews, Aaron Moses, Dan Horne, Christine Latino, Grant Kronenberg, Robert Edelman, Jane Nunn, Steve Kvech, Jeremy Hull, Kendall Scott, Ray Weiland, Jessica Coughlin

Meeting Overview

The Waterworks Advisory Committee (WAC) met in person at the Fairfield Library, 1401 N. Laburnum Avenue, Richmond, VA. Stakeholders, ODW staff, and the public also joined in person and by electronic communication means via WebEx. Grant Kronenberg called the meeting to order at 10:03 a.m. and reviewed the agenda.

It was established that there were enough members in person to establish a quorum.

Review and Adopt Minutes of Meeting

The WAC membership unanimously adopted the meeting minutes from the September meeting. No additions or corrections were made to the draft meeting minutes as presented.

Waterwork Regulations

Jane Nunn has been working on the proposed changes to the Waterworks Regulations. There are 16 substantive changes and 10 technical changes being presented for the WAC's consideration. Jane presented the proposed amendments to the WAC, noting that the WAC will determine

whether to approve the proposed changes and whether it needs to establish subcommittees to discuss any of the proposed changes.

1. Substantive change • Amend the definition of “operator” to clarify it is someone who has a license “with a classification equal to or higher than the classification of the waterworks or water treatment plant being operated” found in 12AVC5-590-461(B) and (C)

The WAC discussed regarding this change. An operator can be anyone, but the new definition indicates that you must have a valid license instead of the capability to have a license. They are concerned that the new definition will exclude a category of personnel. ODW staff suggested meeting with DPOR to make sure both definitions are concurrent. The WAC determined that no determination could be made without further discussion.

2. Technical change • Correct definition of “reverse osmosis” in 12VAC5-590-10. It should read: “Reverse osmosis” or “RO” means a membrane technology designed to remove salts, low-molecular weight solutes, and all other constituents up to down to 0.0001 micron in size...”

No opposition by the WAC members to the proposed change.

3. Technical change • Change “informal fact-finding proceeding” to “informal fact-finding conference” in 12VAC5-590-115 and elsewhere. Makes the language consistent with other VDH offices and other agencies.

No opposition by the WAC members to the proposed change.

4. Technical changes • Proposed amendments: 12VAC5-590-10 – Change the definition of “TMF” from: “‘TMF’ means the technical, managerial, and financial capabilities to operate and maintain a waterworks.” To: “‘TMF’ means technical, managerial, and financial.” 12VAC5-590-200(A)(5) – add “to operate and maintain a waterworks” after “TMF capabilities.” 12VAC5-590-290(F)(1) – add “to operate and maintain a waterworks” after “TMF capabilities.”

No opposition by the WAC members to the proposed change.

5. Topic of discussion (would be substantive changes) • Code of Virginia § 32.1-172 requires a comprehensive business plan as part of the application for a permit to “establish, construct or operate any waterworks or water supply in the Commonwealth...” The comprehensive business plan in ODW is the Waterworks Business Operation Plan (WBOP). WBOP is identified as a requirement to obtain a construction permit under 12VAC5-590-200(A)(5). WBOP is currently not required under 12VAC5-590-260, Issuance of the operation permit, for issuance of an operation permit. WAC input requested as ODW is still analyzing the issue to determine if or how amendments should be made with respect to the requirement for a WBOP and the circumstances in which to require it.

After some discussion, the WAC determined that more discussion is needed for better clarity. Grant Kronenberg, Jane Nunn, and Barry Matthews will update the material then forward it to Jesse Royall, Chris Pomeroy and Andrea Wortzel for their individualized review. The updated version will be presented to the WAC in March.

6. Technical change • “RAA” is defined in 12VAC5-590-10 as “running annual average” and is used in multiple places in the Waterworks Regulations. In 12VAC5-590-384 and 12VAC5-590-531, however, the term “running annual arithmetic average” is found. The Waterworks Regulations mirror the Code of Federal Regulations, which uses “RAA” and “running annual arithmetic average” interchangeably with no apparent distinction between the two. In ordinary language, an “average” is an “arithmetic average,” so there does not appear to be a substantive reason for not using “RAA” throughout the Waterworks Regulations. ODW proposes replacing “running annual arithmetic average” with “RAA.” This is a technical change – “RAA” is defined as “running annual average.”

No opposition by the WAC members to the proposed change.

7. Substantive change • Add requirement to 12VAC5-590-461 for waterworks to notify ODW when a new “operator-in-charge” has been hired. Proposed language: 12VAC5-590-461(E), Change in owner’s designation of operator. When an owner has changed the operator (as defined in 12VAC5-590-10) designated as having responsibility for waterworks operations and any subordinate staff, the owner shall notify the department within 10 days of such designation and shall provide the operator’s name, classification, and DPOR certification number.

The WAC suggested that the 10-day notification be changed to “10 to 30 days or no later than the tenth day of the previous month” Jane indicated that she would check the Code of Virginia to confirm.

The WAC suggested to strike the “subordinate staff” language.

With whose changes, the WAC did not oppose the proposed change.

8. Technical change • 12VAC5-590-461(A)(1)(a) has a misplaced comma. Should read: “A waterworks or a water treatment plant serving 50,000 or more persons or having a water treatment plant capacity of 5.0 MGD or more and employing conventional filtration or chemical coagulation in combination with membrane filtration.” Without moving the comma, this causes consecutive waterworks serving more than 50,000 people to be classified as Class 1, which is not ODW’s intent.

The WAC has asked if bullet points could be used instead of commas. Ignatius Mutoti and Bob Edelman will meet offline to discuss an issue raised with the use of the word “coagulation.”

9. Substantive change • Current language, 12VAC5-590-475(B) “Permanent abandonment.
1. Well abandonment shall be supervised by a certified water well systems provider.
 2. All well abandonments shall be documented on a Uniform Water Well Completion Report, Form GW-2, and submitted to the department within 30 days of completing the physical abandonment.
 3. Groundwater wells that are abandoned shall be sealed by methods that will restore to the fullest extent possible the controlling geological conditions that existed before the wells were constructed.
 4. Casing and screen materials may be salvaged.
 5. The well shall be checked from land surface to the entire depth of the well before it is sealed to ascertain freedom from obstructions that may interfere with sealing operations. Effort shall be made to remove or clear any obstacles that may prohibit sealing by grouting the complete well depth.
 6. The well shall be thoroughly chlorinated before sealing.
 7. Bored wells and uncased wells shall be backfilled with clean fill to the water level. A two-foot-thick bentonite grout plug shall be placed immediately above the water level. Clean fill shall be placed on top of the bentonite grout plug and brought up to at least five feet from the ground surface. The top five feet of the well casing, if present, shall be removed from the bore hole. If an open annular space is present around the well casing, then the annular space shall be filled with bentonite grout to the maximum depth possible, but less than or equal to 20 feet. A one-foot-thick cement or bentonite grout plug that completely fills the bore void space shall be placed a minimum of five feet from the ground surface. As an alternative, bored wells and uncased wells may be completely filled with concrete, sand-cement, bentonite-cement, or neat cement grout to within a minimum of five feet from the ground surface by introduction through a pipe initially extending to the bottom of the well. The pipe shall be raised but remain submerged in grout or concrete as the well is filled. The remaining space shall be filled with clean fill that is mounded a minimum of one foot above the surrounding ground surface.
 8. Non-bored wells constructed in unconsolidated formations shall be completely filled with concrete, sand-cement, bentonite-cement, or neat cement grout to within a minimum of five feet from the ground surface by introduction through a pipe initially extending to the bottom of the well. The pipe shall be raised but remain submerged in grout or concrete as the well is filled. The remaining space shall be filled with clean fill that is mounded a minimum of one foot above the surrounding ground surface.
 9. Wells constructed in consolidated rock formations or that penetrate zones of consolidated rock may be filled with sand or gravel opposite the zones of consolidated rock. The top of the sand or gravel fill shall be at least five feet below the top of the consolidated rock and at least 20 feet below land surface. The remainder of the well shall be filled with concrete, sand-cement, bentonite-cement, or neat cement grout to within a minimum of five feet from the ground surface by introduction through a pipe initially extending to the bottom of the well. The pipe shall be raised but remain submerged in grout or concrete as the well is filled. The remaining space shall be filled with clean fill that is mounded a minimum of one foot above the surrounding ground surface.
 10. The location of the well shall be permanently documented for future reference.”

Comments received that well abandonment standards are too burdensome with suggestion to amend to match the Private Well Regulations' requirements (see 12VAC5-630-450). The VDH Office of Environmental Health Services' response was that private well regulations are based on the cost that a homeowner could be expected to afford. DEQ's recommendations: Retain the text currently found in B.1, B.2, B.3, and B.10. B.5 includes a first sentence that substantially duplicates the Private Well Regulations, plus a second sentence that is absent from the Private Well Regulations (both current and amended versions). ODW recommends retaining B.5 to preserve the requirement in the second sentence. Replace the other requirements (current B.4, plus B.6 through B.9) with a single provision to the effect that, "Permanent abandonment of a well shall be in accordance with both this subsection and subsection C of 12VAC5-630-420." This would accommodate both the current requirements and the future, amended requirements of the Private Well Regulations.

Jesse Royall would like ODW to further discuss the issue with VDH's Office of Environmental Health Services to make sure that the proposal is in line with the Private Well Regulations. ODW will do that and bring something back to the WAC at its March meeting.

10. Substantive change • Propose restoring the baffle factor of 1.0 to the Baffling Factor Table 500.15 in -590-500. The Baffling Factor Table 500.15 in 12VAC5-590-500 was amended in the 2021 amendment to the Waterworks Regulations, removing the 0.9 and 1.0 baffle factors. Consistent with the Guidance Manual for the Compliance with Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources (EPA, 1991), a baffle factor of 1.0 for Perfect (plug flow) conditions is justified (this reference does not have a 0.9 baffle factor). Recommend that ODW amend Table 500.15 to match the EPA guidance (Table C-5, Baffling Classifications).

EPA does not include the Baffling Factor of 0.9 in its table. The WAC members suggested to make the table consistent with the EPA guidance factor. ODW would add the 1.0 back into the regs to conform with EPA's standards. The WAC members recommend that ODW amend our table so that it matches. No opposition by the WAC members to the proposed change.

11. Substantive change • Return language requiring metering of total water production and add to 12VAC5-590-510. Prior to 2021, the Waterworks Regulations had requirements for metering of total water production in both Part II (what was then 12VAC5-590-520.B) and Part III (12VAC5-590-700); today's Waterworks Regulations only have this requirement in Part III (12VAC5-590-700), which seems to allow existing waterworks to discontinue metering of total water production.

Proposed language: 12VAC5-590-510. F. Metering total water production

1. All community waterworks shall provide metering of total water production.
2. All NTNCs and TNCs that provide treatment or have a design capacity of greater than 300,000 gallons per month shall provide metering of total water production.

3. If the waterworks treatment process results in a waste flow, including filter backwash, ion exchange regenerate, or residual solids, then the waterworks shall provide metering of total source water withdrawn and finished water produced.

4. The department may document exceptions to this requirement in Operation Permit Conditions or a Variance Substantive Change.

The Waterworks Regulations has an issue regarding metering total water production. Would like to add the language back to part 2 that was removed in the 2021 amendments and add to section 510. Create a new subsection for 510.

No opposition by the WAC members to the proposed change.

12. Substantive change • Add requirement to report “unregulated contaminants” for which monitoring is required under 40 CFR § 141.40 (UCMR) to the Consumer Confidence Report to reflect the requirement in 40 CFR § 141.153(d)(ii). The requirement for reporting detected contaminants monitored under the UCMR is missing from 12VAC5-590-545(C)(3). Proposed language: “3. Information on detected contaminants. a. This section specifies the requirements for information to be included in the report for contaminants subject to a PMCL, AL, MRDL, or treatment technique as specified in 12VAC5-590-340 and contaminants for which monitoring is required by 40 CFR § 141.40 (unregulated contaminants).” Substantive change – Need to add a requirement regarding regulated contaminants. Not currently in the Waterworks Regulations – this is something that EPA has required us to do.

No opposition by the WAC members to the proposed change.

13. Technical change • Missing language in 12VAC5-590-545©(5)(c). Current language: “For that fails to take one or more of the prescribed actions, the report shall include the applicable language of 12VAC5-590-546 for lead, copper, or both.” Proposed language: “For an owner that fails to take one or more of the prescribed actions, the report shall include the applicable language of 12VAC5-590-546 for lead, copper, or both.”

No opposition by the WAC members to the proposed change.

14. Technical change • In 12VAC5-590-630(D), remove the references to “starting January 1, 2023...” since that date is now past. Proposed language: “Starting January 1, 2023, persons testing and repairing backflow prevention assemblies and backflow prevention devices shall be certified by a Commonwealth of Virginia tradesman certification program (identified by DPOR as backflow prevention device workers).” Technical change – addition of “an owner.”

No opposition by the WAC members to the proposed change.

15. Technical change • Update the “Note” in 12VAC5-590-830(A)(2)(b) to reference DEQ. Proposed language: “Note: Local governments may request this aid from the Department of Environmental Quality (DEQ) by contacting either the Health Department's Office of Water

Programs or DEQ's headquarters office in Richmond.” Technical change – Change reference to the Department of Environmental Quality.

No opposition by the WAC members to the proposed change.

16. Substantive changes. Well construction: 12VAC5-590-840(F)(1)(c), Class 1 wells - “For wells constructed in consolidated formations, the lower end of the casing shall terminate in solid rock or other impervious impermeable formation when practical to do so.” 12VAC5-590-840(F)(2)(c), Class 2 wells - “For wells constructed in consolidated formations, the lower end of the enlarged portion of the drill hole should terminate in solid rock or other impervious impermeable formation when practical to do so.” Grouting requirements: 12VAC5-590-840(G)(5)(b)(3) - “Before grouting wells, suitable fill material such as bentonite, engineered low-permeability/high-solids bentonite and sand mix, low-strength cement and sand mix, or similar materials that have been approved by the department shall be added to the annular opening below the grout zone to seal and stabilize these areas. Instead of this requirement, the casing may be grouted for its entire depth.” Substantive change – well constructions from “impervious” to “impermeable.” Also adding “engineered low-permeability/high-solids bentonite and sand mix.”

No opposition by the WAC members to the proposed change

17. Substantive change • Previously, 12VAC5-590-1030(A)(2) required, “A properly screened vent with the end elbowed downward shall be provided for the well casing,” but was repealed in 2021. Recommend restoring language for well casing vent requirements, including screening, by adding to 12VAC5-590-840(I)(4). 12VAC5-590-840(I)(4) currently reads, “Provisions shall be made for venting the well casing to the atmosphere. Where vertical turbine pumps are used, vents into the side of the casing may be necessary to provide adequate venting.” This allows multiple interpretations of what an appropriate vent might be:
- 1) a screened mushroom cap.
 - 2) a screened tube elbowed downward.
 - 3) a tube pointed straight upwards with a screen tied around the end.
 - 4) an unscreened pitless adapter cap; or
 - 5) something else.

Recent example: a plastic pipe pointed straight upward, with no screen, and with slots cut into the sides of the pipe.

Proposed language: “Provisions shall be made for venting the well casing to the atmosphere. The piping connecting the vent to the casing shall be of sufficient diameter to allow for rapid venting of the casing. The opening of the vent shall be covered with corrosion resistant screen, with a mesh size sufficient to prevent entrance by insects (24-mesh size recommended). Where vertical turbine pumps are used or the well is equipped with a pitless adapter unit, vents into the side of the casing may be necessary to provide adequate well venting. Pitless adapter caps, which have screened vents that are integral to the cap construction, are acceptable. The vent shall terminate in a downturned position, at or above the top of the casing, no less than 12 inches above the floor or grade.”

No opposition by the WAC members to the proposed change.

18. Substantive change • Update 12VAC5-590-882(G) to reflect a requirement for inline laser-type turbidimeters. Applicable only to membrane filtration processes. Requirement in ODW Working Memo 880 so already asking waterworks to meet this standard. WAC input is requested as ODW is still researching this possible amendment.

WAC members requested that ODW check on laser type turbidimeters and ODW staff said that would look at developing a performance standard.

19. Substantive change • Update 12VAC5-590-1005(H)(4) to be consistent with new EPA UV guidance issued in 2022 that says continuous UVT monitoring is no longer necessary when the calculated dose approach is used. Proposed language: “Continuous monitoring sensors shall be provided to measure UV intensity. A continuous sensor shall also be provided to measure ultraviolet transmittance (UVT) if the calculated dose approach is utilized, except if the validated calculated dose approach does not require UVT as a continuous input. For systems validated on the basis of equations not requiring UVT as a continuous input, the department may require equipment for grab-sample UVT analysis.”

No opposition by the WAC members to the proposed change.

20. Substantive change • Revision to 12VAC5-590-1065(D) as it relates to 12VAC5-590-700. Current language: “A totalizing water meter to measure water production shall be provided for each well and shall be located upstream of the well blowoff.” Proposed language: “If a totalizing water meter is required per 12VAC5-590-700, then a totalizing water meter shall be provided for each well and located upstream of the well blowoff.”

WAC members requested to clarify that this is an exception, and WAC members noted that this language is incorporating exceptions that are in another section of the Waterworks Regulations.

With clarification, no opposition by the WAC members to the proposed change.

21. Substantive change • Look at moving flood risk management standard from the Drinking Water State Revolving Fund (DWSRF) Program Guidance to the Waterworks Regulations. Jane Nunn noted that this would codify requirements already imposed on those in the regulated community that receive DWSRF funds; It focuses on flooding prevention/mitigation; federal/state grant money may be available; and increased cost for new construction not associated with DWSRF. ODW requests WAC input as ODW is still researching this possible amendment.

Jane Nunn will develop proposed language and discuss it at the WAC meeting in March after she has gotten information from the ODW DWSRF staff.

22. Technical change that applies to the complete chapter • Change the order of some sections if doing so would make the regulations easier to understand or reference. One example: Regulations specific to lead and copper (12VAC5-590-375, -590-385, -590-405, & -590-532) are not grouped together but are grouped per category (monitoring, compliance, technique, and reporting). WAC input needed by March 2024 WAC meeting on changing the order of the sections.

The consensus of the WAC was that no change is needed.

23. New technical item • Regulatory definition states that “boil water advisory” and “boil water notice” have the same meaning. Federal Safe Drinking Water Act and the National Primary Drinking Water Regulations do not define them, and the EPA and CDC primarily use “boil water advisory.” Consensus is that the general public does not discern between the two terms. ODW’s proposal is to amend the regulations to use “boil water advisory” instead of “boil water notice.”

It was discussed that in the Tier 1 public notification, can differentiate between the two by adding the word “precautionary” when it’s unknown if the water is contaminated. There was discussion about the use of “precautionary.”

No opposition by the WAC members to the proposed change. The WAC members recommended ODW add a new regulation for notices that uses the language “do not use.”

24. New substantive item • Confusion between this regulation and a manual/working memo. Proposed language: For each routine sample found to be total coliform positive, the owner shall collect a set of three repeat samples within 24 hours of being notified of the positive result. The department may extend the 24-hour limit on a case-by-case basis if the system has a logistical problem in collecting the repeat samples within 24 hours that is beyond its control.”

No opposition by the WAC members to the proposed change.

25. New substantive item • Current language: “Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the commissioner or department on a case-by-case basis.” Proposed language: “Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the commissioner or department on a case-by-case basis. An example would be a loss of water pressure that results in the potential for contaminants to enter the depressurized area of a distribution system, such as a water main break, loss of water supply, demand exceeding supply, or closed valve.”

WAC members did not feel that providing an example as proposed by ODW is necessary. The WAC members suggested ODW revise the section to provide greater clarity, however.”

Compliance, Enforcement & Policy Update

Thirteen serious violators identified in the October Enforcement Targeting Tool report from EPA.

To date, seven systems have returned to compliance.

The Enforcement Manual and Waterworks Operation Fee Regulations are still under executive branch review.

Staff update

ODW is currently operating at a 16% vacancy rate. ODW has other positions advertised, the issues we are having is finding engineers to fill those positions.

ODW is currently advertising for a Chief of Field Operations (formerly the Deputy Field Director).

Budget

ODW currently has 7 positions on hold awaiting the Governor's budget.

PFAS Phase 2

Robert Edelman is taking over the PFAS responsibilities. The UCMR 5 monitoring started January 1, 2023, and will run through 2025. Virginia currently has 62 water systems that have monitored for UCMR 5. The interesting thing is that there hasn't been that many detections above the MCLs. ODW is expecting the EPA to finalize the regulations within the new year.

Virginia has collected over 290 samples this year in what we are calling Phase 2.2 for PFAS monitoring program. ODW now has a PFAS dashboard on the website that is available for the public and press. Please note that the information on the website doesn't include the samples that Water systems have done independently.

Lead and Copper Revisions

The LCR improvements are currently located on the EPA webpage. Because of the number of pages of the Lead and Copper revisions, ODW will take a while to go over all of the information.

Waterworks will need to continue to focus on completing and submitting the Service Line Inventories followed by the notifications. ODW will offers technical assistance and job aids are on ODW's website. ODW will be rolling out a portal with training for the regulated community and will be providing a webinar at a later date.

Centralized Plan Review Program

ODW's staff shortage has changed the approval time. ODW is working on getting the Centralized Plan Review Program back on track. ODW is setting up a portal to submit plans.

Drinking Water Viewer implementation

Field Services Engineer Aaron Moses is working with ODW's vendor to provide more frequent updates and will be working on recordings, instruction videos, and training for waterworks.

If there are issues with incomplete data, please share with Aaron Moses directly.

EPA Cybersecurity Assessment Memo

The EPA is hosting a Cybersecurity tabletop exercise. Jessica Coughlin, Emergency Services Coordinator, encourages all operators and owners to take the course. Ms. Coughlin provided a slide for review during the meeting for those who want additional information.

Training Program

Julie Floyd is now the new Training Manager. She is working to make improvements to the operator certification, evaluation of operator training, improving internal training and Lead and Copper Rule Revisions training.

The municipal association is setting up a committee along with DPOR and AWWA. ODW is planning to monitor the committee. WPI is standing up a new initiative to attempt to provide certification for water drinking water and wastewater trainers.

Lead Testing

ODW continues to implement the School and Child Care Lead Testing and Reduction Grant Program. The goal of this program is to take a single approach to satisfying multiple requirements surrounding testing at schools and child care facilities. The program aims to utilize Water Infrastructure Improvements of the Nation (WIIN) Act grant funds - in addition to ODW resources - to satisfy the Virginia Testing & Reporting requirements under HB797/SB392 and HB799/SB393. The program sampling protocol (EPA 3Ts Model) also seeks to satisfy upcoming Lead and Copper Rule Revision requirements at schools and child care facilities. Enrollment for the WIIN Lead Testing Program is open and free to facilities.

Public Comment

None

Conclusion

The 2024 WAC meetings are scheduled for March 13, 2024 (in person), June 12, 2024 (all virtual), September 18, 2024 (in person), December 11, 2024 (all virtual).

The meeting adjourned at approximately 12:45 p.m.

APPROVED MINUTES

Waterworks Advisory Committee Meeting Minutes

Fully Virtual Meeting Via WebEx

10:00 am, Wednesday, September 20, 2023

Members Present: David Van Gelder (Chair), Water Operator; Russ Navratil, VA AWWA; Tom Fauber, VA ABPA; Steven Herzog, Hanover County/VWEA; Joey Hiner, SERCAP; Skip Harper, Virginia Plumbing & Mechanical Inspectors Association; Ben Barber, Virginia Health Catalyst; Geneva Hudgins, VA-AWWA; Mark Estes, VRWA and HCSA; Jesse Royall, Jr., Sydnor Hydro, Inc.; Ignatius Mutoti, VSPE; Caleb Taylor, VA Municipal League

Members Absent: Whitney S. Katchmark, PE Principal Water Resources Engineer; Andrea Wortzel, Mission H2O; Anthony Morris, DEQ; Chris Pomeroy, Virginia Municipal Drinking Water Association; Bailey Davis, DCLS

Others: Christopher Gill, Christian and Barton; Jack Hinshelwood, VDH; Tonya Pettus, DPOR; John Kingsbury, Fairfax Water; Ashley Pierce, DCLS; Michelle Ashworth, Aqua Law; Shane Wyatt, DCLS; Trisha Lindsey, DHCD; Charlie Paullin, Virginia Mercury; Charysse Hairston, SERCAP; Izy Ozmon, HRPDC; Jeff Brown, DHCD; Shane Wyatt, DGS

Office of Drinking Water (ODW) Staff: Dwayne Roadcap, James Reynolds, Barry Matthews, Aaron Moses, Grant Kronenberg, Jane Nunn, Jeremy Hull, Parez Hawarry, Dan Horne, David Dawson, Jessica Coughlin, James Reynolds, Ray Weiland

Meeting Overview

The Waterworks Advisory Committee (WAC) met in an all-virtual meeting through WebEx.

Dwayne Roadcap called the meeting to order at approximately 10:02 a.m. and after some virtual head counting quorum was established. Dwayne welcomed new WAC member Ben Barber.

Review and Adopt Minutes of Meeting

The WAC membership unanimously adopted the meeting minutes from the June meeting. No additions or corrections were made to the draft meeting minutes as presented.

Staff Additions and Departures

Dwayne Roadcap introduced Jessica Coughlin, ODW's new Emergency Services Coordinator. Jessica addressed the group, explaining that she has had a busy first few weeks on the job, that she is here to help, and that Dwayne has her contact information.

Dwayne Roadcap announced that Tony Singh, ODW Deputy Director, resigned and has moved to a position with EPA. Dwayne said that Tony's PFAS duties have been assigned to Bob Edelman and that ODW hopes to advertise the open position in the coming weeks. Dwayne said that if there are questions about PFAS or other services that would have gone to Tony, people may reach out to Dwayne or to Bob Edelman.

Compliance, Enforcement & Policy Update

Grant Kronenberg provided the Compliance, Enforcement and Policy update.

The July Enforcement Targeting Tool report showed 11 serious violators. In the April report, there were eight serious violators. Of the 11 serious violators, two had already had all or substantially all violations returned to compliance. Additionally, four of the 11 serious violators are already under an administrative order.

The Project Review and Permit Procedures Manual went through the Town Hall public comment process and no comments were received. The manual became effective on July 6.

The revised Enforcement Manual is undergoing review by the Office of Regulatory Management. Once that process is complete, it will be posted on Town Hall for public comment.

PFAS Phase 2 Testing

Grant Kronenberg provided the PFAS Phase 2 testing update on behalf of Bob Edelman.

The UCMR5 runs through the end of 2025. Impacted waterworks include those with populations above 3,300 and a nationally representative sample of system with fewer than 3,300.

Quarterly data results from August showed three detections for Lithium, with two about the Health Reference Level. One for PFOA, one for PFAS, none for GenX, two for PFBS but none above the Lifetime Health Advisory, none for PHNA, and two for PFHxS but none above the Lifetime Health Advisory.

EPA intends to issue a final PFAS regulation by the end of the year. Certain aspects of the final rule will start almost immediately upon publication, such as initial monitoring is to be done before the compliance date.

A waterworks would have to monitor for PFAS, notify the public of the levels of PFAS, and reduce the levels of PFAS in drinking water if they exceed proposed standards.

The Hazard Index was discussed. It sums fractions related to the level of each PFAS substance in order to consider combined toxicity.

A map showing Phase 1 PFAS sampling locations was shared, as was Phase 1 sampling detection results which showed 11 detections above the proposed maximum contaminant level.

A map showing Phase 2.1 PFAS sampling locations was shared, as was Phase 2.1 sampling results, which showed two detections above the proposed maximum contaminant levels in 45 samples.

Phase 2.2 of PFAS sampling was discussed. ODW staff collected over 245 samples in June and recollected some samples in September. ODW is in the process of sharing June samples with waterworks owners. ODW is targeting late October for compiling and releasing a summary of the results. Future PFAS sampling for small and disadvantaged communities is targeted for 2024. Funding is being provided through the Emerging Contaminants in Small or Disadvantaged Communities grant, which was discussed at the June WAC meeting.

There was discussion of whether resamples would be included in the upcoming results that are targeted to be released in late October. Dwayne Roadcap said that the hope is that those resampling results will be included, but it will depend on several factors. ODW would like to release the results as a unit.

There was discussion about the reason for the lab rejecting samples. Dwayne Roadcap said that he thought it was a temperature issue. Dan Horne said that Bob Edelman reported that some resamples were necessary due to issues with the lab analysis of one sort or another where the lab did not report results at all for a particular sample.

Lead and Copper Rule Revisions and Courses

Grant Kronenberg provided an update on behalf of Bob Edelman.

On the LCRR, the lead service line inventory is due by October 16, 2024. An LCR sampling plan will need to be revised and submitted based on the inventory results. If needed, a lead service line replacement plan will also need to be submitted. Waterworks need to compile a list of schools and child day centers that they serve. Waterworks will need to prepare for public notifications and consumer notifications.

ODW has contracted with TruePani to provide training and technical assistance. Waterworks can now obtain one-on-one technical assistance from TruePani.

ODW will roll out SWIFT Submittals, which is a portal for LCRR Lead Service Line Inventories and other LCRR documents in Fall 2023. The portal is currently undergoing testing.

With respect to the Lead and Copper Rule Improvements, EPA has a goal to publish the LCRI by fall of this year. That means it could not occur until December. EPA has provided some “signals” regarding the LCRI, including that the lead service line inventory is not changing, consumer notification following lead tap sampling – sharing results, public notification is Tier 1 for action level exceedance, consumer notification with lead, galvanized requiring replacement, or unknown service line, and there will be a lead service line replacement program.

There was discussion about questions from small community systems, with it said that this is confusing to them and they do not know how to do the training. It was suggested that VDH could have recommended contractors to help systems run the program for them. It was discussed that ODW will look at posting a list of contractors, which ODW has done with legionella for schools. ODW could not, however, provide an endorsement. It was discussed that with the training events that have taken place, a lot of people may not have participated that ODW would want to participate. ODW had a contractor who went to several locations with ODW staff and ODW heard good things from them. Additionally, the contractor reached out to waterworks about the training and ODW had marketing about it. Also, the LCRR webpage still has the contact for TruePani and they can get technical assistance from TruePani.

ODW will look at who could provide services beyond TruePani. It was discussed that ODW has contracted with TruePani to reach out to smaller waterworks for one-on-one training. The ODW field staff has reached out to waterworks to let them know to expect a call from TruePani. ODW noted that TruePani has a lot of availability. Waterworks can be informed that TruePani is ODW's contractor to provide technical assistance for the LCRR work. Waterworks can also be referred to Barry Matthews for technical assistance.

Centralize Plan Review, Drinking Water Viewer Implementation Update

Aaron Moses provided an update on the centralized plan review and Drinking Water Viewer implementation.

Aaron first addressed cybersecurity. He noted the 8th Circuit Court of Appeals ruling regarding the EPA interpretative memorandum has put requiring cybersecurity assessments as part of sanitary surveys on hold. ODW's response has been to shift to an educational approach until EPA issues further guidance. ODW is working on draft webpage and drafted two questions we plan to implement with sanitary surveys aimed at raising awareness among water systems that might not be doing anything on cybersecurity.

Sharing cybersecurity assessment information with the WAC was discussed. Aaron Moses said that ODW has engaged with the VMDWA but it is happy to share it with the WAC as well.

Aaron discussed the plan review program. ODW has made progress and is getting better working together with field offices on plan review. Aaron noted issues with technology as emails to submit projects are being blocked. ODW is looking at using GEC Swift Submittals to address these technological issues.

Aaron discussed Drinking Water Viewer Implementation. Currently, testing CCR write feature, which the software vendor provided a couple of months ago. The plan is to get that tested and results coming out in 2024 CCR season. Also working on submitting instructional videos, including one related to using more common features in Drinking Water Viewer. The goal is to have that posted shortly.

Sampling Verification Program

Parez Hawarry provided an update.

Seven full-time employees have been hired for the program, they are in each field office and her. A policy for the program is still pending. Great progress is being made with a five-phased plan, and they are 85% of the way through phase 1. The focus is on training and key metrics. The hope is to finish this phase soon. Phase 2 will be sampling alongside public water systems. Training is planned for id-December.

Training Updates – Virginia Tech Short School

Barry Matthews provided an update on training.

There was discussion of the Virginia Tech Short School that is usually conducted in August. For this short school course, there is also a DPOR exam. There was discussion of the pass rates for Class 5 and Class 6, with two out of two for Class 5 passing and two out of six for Class 6 passing. It was discussed that it seems there was no overall net gain in associating it with the short school.

There was discussion of testing for the different levels that were not the DPOR exam but the short school testing. For level A, year 1 – 29 of the level A students passed the test and received CEUs for the short school. Five did not pass and received contact hours. This is pretty high pass rate for level A. For level B, 14 received CEUs and four received contact hours. For level C, three received CEUs and two contact hours. Overall, pleased with pass rates for the short school.

There was discussion that in 2021, the last year we had test score averages, the test score average was 78%. For August, the averages were down slightly – 73% for A, 71% B, 67.5% approximately for C. Not sure why those scores were down, but fairly pleased with the pass rate. Maybe a little lower average than what we have seen in the past.

There was discussion about looking at other states' passing rates. There was discussion of how to achieve higher pass rates on the test, including doing a better job of teaching operators or operator candidates better test-taking skills and reinforce the need for studying, even though the exam is open book. It was discussed that operators' skill set for taking examinations may need more development, while it was also noted that responsibility is partly on the operator to take personal responsibility to prepare for the exams.

There was discussion as to the adequacy of the material taught at the Short School, including that we do not know because we are not allowed to know what the exam questions are specifically. We are only given broad guidance on what should be studied. That lends itself to some difficulty in preparing and designing for the operators. It was discussed that there is a general shift from testing for specifics to testing for concepts, and that testing for concepts is harder to study as you do not know what areas they are testing the concepts in. Does thoroughly covering most areas

needed to serve job duties translate to answers exam questions correctly? It was discussed that there is a need to further examine the test results, the categories, and the scores within categories. There was discussion about taking advantage of other operators around you and the importance of study habits. There was also discussion of the design of the test and looking at that, while the need to focus on training and education of operators in Virginia was noted.

There was discussion about the need to provide more assistance with math as that has been challenging for operators. It was noted that SERCAP has made tutoring in math available.

There was discussion about working together to crack the operator testing issue, including getting more involvement from people from larger systems and bringing their expertise into the short school and other training opportunities. The pooling of resources and finding good resources for operators was discussed.

There was discussion of Iowa delegation and the pass rates there, and how cultural issues and study habits might be different. The idea of parallel or dual licensure was also discussed, which could be helpful to small systems.

Waterworks Operation Fee Regulations Update and Change in Method of Application of Operation Fees Cap

Grant Kronenberg provided an update on the Waterworks Operation Fee regulations.

The Board of Health's approval of the proposed amendments to the Waterworks Operation Fee regulations was discussed. The proposed amendments include a \$60 fee for transient noncommunity waters, a \$30 fee increase for nontransient noncommunity waterworks, and establishment of a \$2,500 fee for wholesale waterworks with fewer than 15 non-waterworks customer accounts. The amendments are currently under executive branch review.

There was also discussion of ODW's plans to modify the method by which the \$160,000 waterworks operation fee cap is applied. Historically, the cap has been applied on a per owner basis, but for fiscal year 2025, ODW plans to apply the cap on a per waterworks basis, which is consistent with the regulations.

In response to a question, it was discussed that this change is expected to generate additional fees of approximately \$177,000.

A Cross-Connection Case Study

Dwayne Roadcap described a recent issue involving a cross-connection of a sewer line to a drinking water line that impacted 20 to 25 homes. The response included flushing, increasing chlorine, and lots of sampling. The agency instituted an Incident Command System. VDH had its epidemiological staff see if health impacts were associated with the cross-connection. The local health director, VDH environmental health, ODW's Emergency Services Coordinator, and the

Virginia Department of Emergency Management was all involved. It took about a week for the drinking water issues to resolve for the homes. The aftermath is continuing as ODW has been invited to a community meeting and ODW has received FOIA requests and media attention.

It was discussed that ODW is looking at the cross-connection control program again. Related to this, there was discussion you may not be able to prevent something like this if someone is going to not following rules by not getting permits, not doing inspections, not verifying the line they are connecting to. It was discussed that you cannot prevent everything through rule or regulation. It was noted that it is hard for the utility to correct an issue if someone illegally hooks in and you need the ability to monitor what is happening on the system.

It was discussed that VDH has issued a Notice of Alleged Violation to the contractor who connected the sewer line to the water line, and ODW has looked at additional options such as increased sampling to let the owners have more confidence in their drinking water. With respect to further action against the contractor, it was discussed that due process is required and the local building official issued a notice of violation with a fine. Also, ODW will file a report with the Department of Professional and Occupational Regulation (DPOR) concerning the licensed contractor. It was discussed that the American Water Works Association is a partner trainer with VDH and conducting connection classes 3-4 times a year that is focused on utilities.

The difficulty of attributing particular illnesses to this event was discussed. There is not evidence at this point of a mass illness event.

ODW Budget

Dwayne Roadcap discussed the ODW budget.

ODW is continuing to hold seven positions vacant. A funding request has been put in to address the vacancies. ODW is hoping the budget introduced in mid-December and the 2024 budget process will address the funding need.

Development of Amendments to Waterworks Regulations

Jane Nunn presented on amendments to the Waterworks Regulations that ODW is considering. There are 27 proposed amendments consisting of 17 substantive changes and 10 technical changes. The WAC needs to determine if it wishes to create any subcommittees. If there is an expected cost associated with a proposed amendment, that has been noted, but a specific amount has not been identified.

Discussed Item #1 – change to definition of the word “operator.” There had been questions earlier in the year related to the definition and how it operates with 12VAC5-590-461 of the Waterworks Regulations. It was discussed that the change would not impact acceptance of licenses issued by DPOR.

Discussed Item #2 – this is a technical, definitional change in the definition of reverse osmosis as we would delete “up to” and replace it with “down to.”

Discussed Item #3 – technical change regarding the definition of “TMF.” ODW suggests changing the defined term to “TMF capabilities.” This language is applied later on in the proposed amendments.

Discussed Item #4 – ODW is still researching this language related to waterworks with seasonal components. It would be a substantive change to definitions section. ODW had the issue come up where we have seasonal waterworks, but we also have waterworks with seasonal components. Currently, the regulations don’t cover waterworks with seasonal components so ODW is considering whether to add it to the regulations. A change would include adding a definition of “waterworks with seasonal components” including changing substantive language in 12VAC5-590-370 and -540 of the Waterworks Regulations.

Discussed Item #5 – this is a technical change from “proceeding” to “conference.” ODW thinks that it is the only office in VDH and more broadly in state government to use “proceeding.”

Discussed Item #6 – this is a technical change, where we see the change from “TMF” to “TMF capabilities,” with language changing in 12VAC5-590-200 and -290 of the Waterworks Regulations.

Discussed Item #7 – ODW is researching whether changes should be made to the language in the regulations regarding the Waterworks Business Operations Plan (WBOP). The WBOP is identified as a requirement to obtain a construction permit in 12VAC5-590-200(A)(5) of the Waterworks Regulations, but not currently required in 12VAC5-590-260 to get an operation permit. Also, 12VAC5-590-310 allows modifications to be viewed differently and a separate determination to be made on whether WBOP is needed.

Discussed Item #8 – substantive change related to waterworks with seasonal components. The regulations directly pertinent to seasonal waterworks are 12VAC5-590-370 and -540. There is nothing in the regulations for waterworks with seasonal components.

Discussed Item #9 – technical change. Definition for “RAA” – running annual average. ODW found out there are some places in the Waterworks Regulations that use “running annual arithmetic average” so we are considering the need to make things more consistent, removing “arithmetic” and just use “RAA.”

Discussed Item #10 – this goes back to the operator definition. One problem ODW has had is there could be a change in the owner’s designation of operator and that change does not get passed along to ODW. There is monthly operation report and usually an operator is listed there, but it would be useful for ODW to know when change in operator in charge. ODW is considering adding a new subsection to 12VAC5-590-461 that would require owners to let ODW

know within 10 days when that designation is changed so ODW has current contact information. No or minimal cost.

Discussed Item #11 – ODW thinks that 12VAC5-590-461(A)(1)(a) has a missing comma that changes the meaning of the regulation from what is intended.

Discussed Item #12 – ODW has had some inquiries about abandonment of wells. Discussion about private wells that fall to VDH’s Office of Environmental Health Services (OEHS) and the private well regulations. ODW has discussed the issue with and the Department of Environmental Quality. DEQ recommended retaining some language as is and that ODW should follow what OEHS has in their regulations. ODW would replace some subsections with one subsection that references OEHS regulation – 12VAC5-630-420. The change would be adding in references to 12VAC5-630-450 to and 12VAC5-590-475(B). The change would likely reduce requirements and costs to the regulated community.

Discussed Item #13 – currently, EPA has guidance on Baffling Factors and a table. ODW recommends amending our table to match EPA’s. No cost associated with this change.

Discussed Item #14 – substantive change to return to regulatory language requiring total water production. The language was in the regulations prior to the 2021 amendments. ODW has found that removing the language has led to confusion and inconsistency between 12VAC5-590-700 and -510. ODW proposes adding language to 12VAC5-590-510 to make consistent with 12VAC5-590-700. ODW does not expect any cost to the regulated community.

Discussed Item #15 – this is required by federal regulations. We need to add a requirement to report unregulated contaminants under 40 CFR 141.40. Propose to add a little language to 12VAC5-590-545(C)(3) to reference federal requirement. No cost to the regulated community for this.

Discussed Item #16 – technical change to add “an owner” to 12VAC5-590-545(C)(5)(c) so it makes sense. There is no cost associated with this change.

Discussed Item #17 – a regulation says, “Starting January 1, 2023,” but since that is now in the past, ODW thinks we should remove the phrase because it is no longer relevant. No cost is associated with this change.

Discussed Item #18 – substantive change to update 12VAC5-590-830 to reflect the current relationship with DEQ, current requirements, and their current business practices. Understanding is this was discussed in 2021 when the regulations were last revised, but no decision was made. ODW has not yet heard from DEQ on what they would like to see, and ODW would like WAC input on this.

Discussed Item #19 – in 12VAC5-590-830, there’s a notes section in the regulations that currently refers to the State Water Control Board, but it should refer to DEQ. ODW wants to make that modification. There is no cost.

Discussed Item #20 – substantive changes to well construction and grouting requirements. DEQ has suggested changing “impervious” to “impermeable” and adding “engineered low-permeability/high-solids bentonite and sand mix” to the list of suitable fill material. Cost unknown at this time but hope it would be a benefit to the regulated community.

Discussed Item #21 – there was language in 12VAC5-590-1030 describing a properly screened vent, but it was repealed in 2021. Since then, ODW has seen interesting interpretations of what would be an appropriate vent. ODW suggests bringing back what was originally in 12VAC5-590-1030 but adding to 12VAC5-590-840. ODW would like the WAC’s review of this, including the cost issue.

Discussed Item #22 – substantive change to 12VAC5-590-882(G) to add a requirement for inline laser-type turbidimeters, applicable only to the membrane filtration process. This is in a working memo. ODW wants the WAC to provide input on whether they think this should be done and if so how.

Discussed Item #23 – substantive change to update 12VAC5-590-1005(H)(4) so it is consistent with new EPA UV guidance that is almost two years old. It would likely result in cost savings for systems using UV systems. ODW would like the WAC’s input.

Discussed Item #24 – substantive change related to the discrepancy between 12VAC5-590-1065 and -700. ODW wants to modify language in 12VAC5-590-1065 to add a reference to 12VAC5-590-700 so it makes more sense when totalizing water meter is required. Likely reduced cost for regulated community.

Discussed Item #25 – consideration of a new regulation regarding flood risk management and how relates to the Drinking Water State Revolving Fund (DWSRF). This is a factor that is required to be looked at for anyone applying for DWSRF funding, but not required for those not applying for such funding. ODW wants to look at it so it is consistent for all new construction so flood mitigation and prevention is looked at. This change would also make it so waterworks are looking seriously at impacts of flooding and waterworks operations. ODW wants WAC to look at that and provide feedback.

Discussed Item #26 – technical change, asking whether ODW should change the order of the sections within the chapter to make it easier to understand. The regulated community is the one impacted the most by this. An example is looking at lead and copper regulations, they are not all together. Rather than lead and copper being grouped together, they are grouped by category such as monitoring, compliance, technique. ODW wants the WAC to consider whether changing the

order would make regulations easier to understand or easier to find. Would want input on this from WAC by March.

It was discussed that many of the suggested amendments will not take much input, but some will take a lot of input. It was discussed that the WAC needs to see which proposals really need an in-depth dive and the formation of a subcommittee. It was discussed that any changes to the definition or requirements related to operators need to consider the impact on operator shortages. Discussed that by the next meeting in December, the WAC would probably have agreement on some of the proposals and then subcommittees could be formed to address the other proposals. It was discussed that there would be a goal to form subcommittees at the December WAC meeting and get the subcommittees' work wrapped up prior to the March meeting for the WAC to come together.

It was discussed, unrelated to the Waterworks Regulations, that the Field Operations Manual is active.

Public Comment

None

Conclusion

It was discussed that the next WAC meetings is scheduled for December 13, 2023, and it is an in-person meeting.

The WAC adjourned at approximately 12:30.

Waterworks Regulations

December 13, 2023

Jane S. Nunn, JD, MPA
Policy and Program Coordinator



Topics

26 proposed Amendments

- 16 Substantive Changes
- 10 Technical Changes
- Determine what subcommittee(s) is/are needed

Item #1 – 12VAC5-590-10

- Substantive change
- Amend the definition of "operator" to clarify it is someone who has a license "with a classification equal to or higher than the classification of the waterworks or water treatment plant being operated" found in -590-461(B) and (C)
- Proposed language: "Operator" means any individual **with a valid license as a Waterworks Operator issued by the Virginia Department of Professional and Occupational Regulation** with the requisite **classification and** skills employed or appointed by any owner, who is designated by the owner to be the person having full responsibility for the waterworks operations and any subordinate operating staff. The individual may be a supervisor, a shift operator, or a substitute in charge, and have duties including testing or evaluation to control waterworks operations. Not included in this definition are superintendents or directors of public works, city engineers, or other municipal or industrial officials whose duties do not include the actual operation or direct supervision of waterworks.
- No cost

Item #2 – 12VAC5-590-10

- Technical change
- Correct definition of “reverse osmosis” in -590-10. It should read:
 - “Reverse osmosis” or “RO” means a membrane technology designed to remove salts, low-molecular weight solutes, and all other constituents ~~up to~~ **down to** 0.0001 micron in size...
- No cost

Item #3 – 12VAC5-590-115

- Technical change
- Change “informal fact-finding proceeding” to “informal fact-finding **conference**” in -590-115 and elsewhere
- Makes the language consistent with other VDH offices and other agencies
- No cost

Item #4 – 12VAC5-590-10, -200, & -290

- Technical changes
- Proposed amendments:
 - -590-10 – Change the definition of “TMF”
 - From:
“TMF” means the technical, managerial, and financial capabilities to operate and maintain a waterworks.
 - To:
“TMF” means technical, managerial, and financial.
 - -590-200(A)(5) – add “to operate and maintain a waterworks” after “TMF capabilities”
 - -590-290(F)(1) – add “to operate and maintain a waterworks” after “TMF capabilities”
- No cost

Item #5 – 12VAC5-590-200 and -260(A)

- Topic of discussion (would be substantive changes)
- Code of Virginia § 32.1-172 requires a comprehensive business plan as part of the application for a permit to “establish, construct or operate any waterworks or water supply in the Commonwealth...”
- The comprehensive business plan in ODW is the Waterworks Business Operation Plan (WBOP)
- WBOP is identified as a requirement to obtain a construction permit under -590-200(A)(5)
- WBOP is currently not required under -590-260, Issuance of the operation permit, for issuance of an operation permit
- WAC input requested as ODW is still analyzing the issue to determine if or how amendments should be made with respect to the requirement for a WBOP and the circumstances in which to require it

Item #6 – 12VAC5-590-384 & 531

- Technical change
- “RAA” is defined in -590-10 as “running annual average” and is used in multiple places in the Regulations. In -590-384 and -590-531, however, the term “running annual arithmetic average” is found
- The Regulations mirror the CFR, which uses “RAA” and “running annual arithmetic average” interchangeably with no apparent distinction between the two
- In ordinary language, an “average” is an “arithmetic average,” so there does not appear to be a substantive reason for not using “RAA” throughout the Regulations
- Propose replacing “running annual arithmetic average” with “RAA”
- No cost

Item #7 – 12VAC5-590-461

- Substantive change
- Add requirement to -590-461 for waterworks to notify ODW when a new “operator-in-charge” has been hired
- Proposed language: -590-461(E), Change in owner’s designation of operator. When an owner has changed the operator (as defined in 12VAC5-590-10) designated as having responsibility for waterworks operations and any subordinate staff, the owner shall notify the department within 10 days of such designation and shall provide the operator’s name, classification, and DPOR certification number.
- No or minimal cost

Item #8 – 12VAC5-590-461(A)(1)(a)

- Technical change
- -590-461(A)(1)(a) has a misplaced comma
- Should read: A waterworks or a water treatment plant serving 50,000 or more persons; or having a water treatment plant capacity of 5.0 MGD or more, and employing conventional filtration or chemical coagulation in combination with membrane filtration.
- Without moving the comma, this causes consecutive waterworks serving > 50,000 people to be classified as Class 1, which is not ODW's intent
- No cost

Item #9 – 12VAC5-590-475(B)

- Substantive change
- Current language, -590-475(B) “Permanent abandonment.
 1. Well abandonment shall be supervised by a certified water well systems provider.
 2. All well abandonments shall be documented on a Uniform Water Well Completion Report, Form GW-2, and submitted to the department within 30 days of completing the physical abandonment.
 3. Groundwater wells that are abandoned shall be sealed by methods that will restore to the fullest extent possible the controlling geological conditions that existed before the wells were constructed.
 4. Casing and screen materials may be salvaged.
 5. The well shall be checked from land surface to the entire depth of the well before it is sealed to ascertain freedom from obstructions that may interfere with sealing operations. Effort shall be made to remove or clear any obstacles that may prohibit sealing by grouting the complete well depth.
 6. The well shall be thoroughly chlorinated before sealing.
 7. Bored wells and uncased wells shall be backfilled with clean fill to the water level. A two-foot-thick bentonite grout plug shall be placed immediately above the water level. Clean fill shall be placed on top of the bentonite grout plug and brought up to at least five feet from the ground surface. The top five feet of the well casing, if present, shall be removed from the bore hole. If an open annular space is present around the well casing, then the annular space shall be filled with bentonite grout to the maximum depth possible, but less than or equal to 20 feet. A one-foot-thick cement or bentonite grout plug that completely fills the bore void space shall be placed a minimum of five feet from the ground surface. As an alternative, bored wells and uncased wells may be completely filled with concrete, sand-cement, bentonite-cement, or neat cement grout to within a minimum of five feet from the ground surface by introduction through a pipe initially extending to the bottom of the well. The pipe shall be raised but remain submerged in grout or concrete as the well is filled. The remaining space shall be filled with clean fill that is mounded a minimum of one foot above the surrounding ground surface.
 8. Non-bored wells constructed in unconsolidated formations shall be completely filled with concrete, sand-cement, bentonite-cement, or neat cement grout to within a minimum of five feet from the ground surface by introduction through a pipe initially extending to the bottom of the well. The pipe shall be raised but remain submerged in grout or concrete as the well is filled. The remaining space shall be filled with clean fill that is mounded a minimum of one foot above the surrounding ground surface.
 9. Wells constructed in consolidated rock formations or that penetrate zones of consolidated rock may be filled with sand or gravel opposite the zones of consolidated rock. The top of the sand or gravel fill shall be at least five feet below the top of the consolidated rock and at least 20 feet below land surface. The remainder of the well shall be filled with concrete, sand-cement, bentonite-cement, or neat cement grout to within a minimum of five feet from the ground surface by introduction through a pipe initially extending to the bottom of the well. The pipe shall be raised but remain submerged in grout or concrete as the well is filled. The remaining space shall be filled with clean fill that is mounded a minimum of one foot above the surrounding ground surface.
 10. The location of the well shall be permanently documented for future reference.”

Item #9, continued

- Comments received that well abandonment standards are too burdensome with suggestion to amend to match the Private Well Regulations' requirements (see 12VAC5-630-450)
- OEHS' response was that private well regulations are based on the cost that a homeowner could be expected to afford
- DEQ's recommendations:
 - Retain the text currently found in B.1, B.2, B.3, and B.10.
 - B.5 includes a first sentence that substantially duplicates the Private Well Regs, plus a second sentence that is absent from the Private Well Regs (both current and amended versions). We recommend retaining B.5 to preserve the requirement in the second sentence.
 - Replace the other requirements (current B.4, plus B.6 through B.9) with a single provision to the effect that, "Permanent abandonment of a well shall be in accordance with both this subsection and subsection C of 12VAC-630-420." (This would accommodate both the current requirements and the future, amended requirements of the Private Well Regs.)
- Reduced cost

Item #9, continued

The Private Well Regulations, at 12VAC5-630-450(C), state, “Permanent abandonment. The object of proper permanent abandonment is to prevent contamination from reaching ground water resources via the well. A permanently abandoned well shall be abandoned in the following manner:

1. All casing material may be salvaged.
2. Before the well is plugged, it shall be checked from land surface to the entire depth of the well to ascertain freedom from obstructions that may interfere with plugging (sealing) operations.
3. The well shall be thoroughly chlorinated prior to plugging (sealing).
4. Bored wells and uncased wells shall be backfilled with clean fill to the water level. A two-foot-thick bentonite plug shall be placed immediately above the water level. Clean fill shall be placed on top of the bentonite plug and brought up to at least five feet from the ground surface. The top five feet of the well casing, if present, shall be removed from the bore hole. If an open annular space is present around the well casing, the annular space shall be filled with grout to the maximum depth possible, but less than or equal to 20 feet. A one-foot-thick cement or bentonite grout plug that completely fills the bore void space shall be placed a minimum of five feet from the ground surface. The remaining space shall be filled with clean fill which is mounded a minimum of one foot above the surrounding ground surface. Bored wells or uncased wells abandoned in this manner shall be treated as wells with respect to determining the minimum separation distance to sources of contamination listed in Table 3.1. The location of these wells shall be permanently marked for future location.
5. Wells constructed in collapsing material shall be completely filled with grout or clay slurry by introduction through a pipe initially extending to the bottom of the well. Such pipe shall be raised, but remain submerged in grout, as the well is filled.
6. Wells constructed in consolidated rock formations or which penetrate zones of consolidated rock may be filled with sand or gravel opposite the zones of consolidated rock. The top of the sand or gravel fill shall be at least five feet below the top of the consolidated rock and at least 20 feet below land surface. The remainder of the well shall be filled with grout or clay slurry.
7. Other abandonment procedures may be approved by the division on a case by case basis.
8. Test and exploration wells shall be abandoned in such a manner to prevent the well from being a channel for the vertical movement of water or a source of contamination to ground water.
9. When bored wells are bored and a water source is not found, and the casing has not been placed in the bore hole, the bore hole may be abandoned by backfilling with the bore spoils to at least five feet below the ground surface. A two-foot-thick bentonite grout plug shall be placed at a minimum of five feet from the ground surface. The remainder of the bore hole shall be filled with the bore spoils.

Item #9 continued

- Proposed language, -590-475(B) “Permanent abandonment.
 1. Well abandonment shall be supervised by a certified water well systems provider.
 2. All well abandonments shall be documented on a Uniform Water Well Completion Report, Form GW-2, and submitted to the department within 30 days of completing the physical abandonment.
 3. Groundwater wells that are abandoned shall be sealed by methods that will restore to the fullest extent possible the controlling geological conditions that existed before the wells were constructed.
 4. The well shall be checked from land surface to the entire depth of the well before it is sealed to ascertain freedom from obstructions that may interfere with sealing operations. Effort shall be made to remove or clear any obstacles that may prohibit sealing by grouting the complete well depth.
 5. Permanent abandonment of a well shall be in accordance with both this subsection and the Private Well Regulations, 12VAC5-630.”
- Reduced cost

Item #10 – 12VAC5-590-500

- Substantive change
- Propose restoring the baffle factor of 1.0 to the Baffling Factor Table 500.15 in -590-500
- The Baffling Factor Table 500.15 in -590-500 was amended in the 2021 amendment to the Regulations, removing the 0.9 and 1.0 baffle factors
- Consistent with the Guidance Manual for the Compliance with Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources (EPA, 1991), a baffle factor of 1.0 for Perfect (plug flow) conditions is justified (this reference does not have a 0.9 baffle factor)
- Recommend that ODW amend Table 500.15 to match the EPA guidance (Table C-5, Baffling Classifications)
- No cost

Item #10, continued

TABLE C-5

BAFFLING CLASSIFICATIONS

<u>Baffling Condition</u>	<u>L_0/L</u>	<u>Baffling Description</u>
Unbaffled (mixed flow)	0.1	None, agitated basin, very low length to width ratio, high inlet and outlet flow velocities
Poor	0.3	Single or multiple unbaffled inlets and outlets, no intra-basin baffles
Average	0.5	Baffled inlet <u>or</u> outlet with some intra-basin baffles
Superior	0.7	Perforated inlet baffle, serpentine or perforated intra-basin baffles, outlet weir or perforated launders
Perfect (plug flow)	1.0	Very high length to width ratio (pipeline flow), perforated inlet, outlet, and intra-basin baffles

Item #11 – 12VAC5-590-510

- Substantive change
- Return language requiring metering of total water production and add to -590-510
- Prior to 2021, the Regulations had requirements for metering of total water production in both Part II (what was then -590-520.B) and Part III (-590-700); today's Regulations only have this requirement in Part III (-590-700), which seems to allow existing waterworks to discontinue metering of total water production
- Proposed language: -590-510.
 - F. Metering total water production**
 1. All community waterworks shall provide metering of total water production.
 2. All NTNCs and TNCs that provide treatment or have a design capacity of greater than 300,000 gallons per month shall provide metering of total water production.
 3. If the waterworks treatment process results in a waste flow, including filter backwash, ion exchange regenerate, or residual solids, then the waterworks shall provide metering of total source water withdrawn and finished water produced.
 4. The department may document exceptions to this requirement in Operation Permit Conditions or a Variance.
- No cost

Item #12 – 12VAC5-590-545(C)(3)

- Substantive change
- Add requirement to report "unregulated contaminants" for which monitoring is required under 40 CFR § 141.40 (UCMR) to the Consumer Confidence Report to reflect the requirement in 40 CFR § 141.153(d)(ii)
- The requirement for reporting detected contaminants monitored under the UCMR is missing from -590-545(C)(3)
- Proposed language:
 3. Information on detected contaminants.
 - a. This section specifies the requirements for information to be included in the report for contaminants subject to a PMCL, AL, MRDL, or treatment technique as specified in 12VAC5-590-340 **and contaminants for which monitoring is required by 40 CFR § 141.40 (unregulated contaminants).**
- No cost

Item #13 – 12VAC5-590-545(C)(5)(c)

- Technical change
- Missing language in -590-545(C)(5)(c)
- Current language: “For that fails to take one or more of the prescribed actions, the report shall include the applicable language of 12VAC5-590-546 for lead, copper, or both.”
- Proposed language: “For **an owner** that fails to take one or more of the prescribed actions, the report shall include the applicable language of 12VAC5-590-546 for lead, copper, or both.”
- No cost

Item #14 – 12VAC5-590-630(D)

- Technical change
- In -590-630(D), remove the references to “starting January 1, 2023...” since that date is now past
- Proposed language: “~~Starting January 1, 2023, persons~~ Persons testing and repairing backflow prevention assemblies and backflow prevention devices shall be certified by a Commonwealth of Virginia tradesman certification program (identified by DPOR as backflow prevention device workers).”
- No cost

Item #15 – 12VAC5-590-830

- Technical change
- Update the “Note” in -590-830(A)(2)(b) to reference DEQ
- Proposed language:
 - Note: Local governments may request this aid from the **Department of Environmental Quality (DEQ)** by contacting either the Health Department's Office of Water Programs or **DEQ's** headquarters office in Richmond.
- No cost

Item #16 – 12VAC5-590-840

- Substantive changes
- Well construction:
 - -590-840(F)(1)(c), Class 1 wells - “For wells constructed in consolidated formations, the lower end of the casing shall terminate in solid rock or other ~~impervious~~ **impermeable** formation when practical to do so.”
 - -590-840(F)(2)(c), Class 2 wells - “For wells constructed in consolidated formations, the lower end of the enlarged portion of the drill hole should terminate in solid rock or other ~~impervious~~ **impermeable** formation when practical to do so.”
- Grouting requirements:
 - -590-840(G)(5)(b)(3) “Before grouting wells, suitable fill material such as bentonite, **engineered low-permeability/high-solids bentonite and sand mix**, low-strength cement and sand mix, or similar materials that have been approved by the department shall be added to the annular opening below the grout zone to seal and stabilize these areas. Instead of this requirement, the casing may be grouted for its entire depth.”
- May reduce cost

Item #17 – 12VAC5-590-840(I)(4)

- Substantive change
- Previously, -590-1030(A)(2) required, “A properly screened vent with the end elbowed downward shall be provided for the well casing” but was repealed in 2021
- Recommend restoring language for well casing vent requirements, including screening, by adding to -590-840(I)(4)
- -590-840(I)(4) currently reads, “Provisions shall be made for venting the well casing to the atmosphere. Where vertical turbine pumps are used, vents into the side of the casing may be necessary to provide adequate venting.”
- This allows multiple interpretations of what an appropriate vent might be: 1) a screened mushroom cap; 2) a screened tube elbowed downward; 3) a tube pointed straight upwards with a screen tied around the end; 4) an unscreened pitless adapter cap; or 5) something else.
- Recent example: a plastic pipe pointed straight upward, with no screen, and with slots cut into the sides of the pipe.
- Proposed language: “Provisions shall be made for venting the well casing to the atmosphere. **The piping connecting the vent to the casing shall be of sufficient diameter to allow for rapid venting of the casing. The opening of the vent shall be covered with corrosion resistant screen, with a mesh size sufficient to prevent entrance by insects (24-mesh size recommended).** Where vertical turbine pumps are used **or the well is equipped with a pitless adapter unit,** vents into the side of the casing may be necessary to provide adequate well venting. **Pitless adapter caps, which have screened vents that are integral to the cap construction, are acceptable. The vent shall terminate in a downturned position, at or above the top of the casing, no less than 12 inches above the floor or grade. ”**
- No cost

Item #18 – 12VAC5-590-882(G)

- Substantive change
- Update -590-882(G) to reflect a requirement for inline laser-type turbidimeters
- Applicable only to membrane filtration processes.
- Requirement in WM880 so already asking waterworks to meet this standard
- WAC input requested as ODW is still researching this possible amendment
- Cost unknown

Item #19 – 12VAC5-590-1005(H)(4)

- Substantive change
- Update -590-1005(H)(4) to be consistent with new EPA UV guidance issued in 2022 that says continuous UVT monitoring is no longer necessary when the calculated dose approach is used
- Proposed language: Continuous monitoring sensors shall be provided to measure UV intensity. A continuous sensor shall also be provided to measure ultraviolet transmittance (UVT) if the calculated dose approach is utilized, **except if the validated calculated dose approach does not require UVT as a continuous input. For systems validated on the basis of equations not requiring UVT as a continuous input, the department may require equipment for grab-sample UVT analysis.**
- Likely cost savings

Item #20 – 12VAC5-590-1065

- Substantive change
- Revision to -590-1065(D) as it relates to -590-700
- Current language: “A totalizing water meter to measure water production shall be provided for each well and shall be located upstream of the well blowoff.”
- Proposed language: “**If a totalizing water meter is required per 12VAC5-590-700, then a totalizing water meter shall be provided for each well and located upstream of the well blowoff.**”
- Likely reduced cost

Item #21 – New Regulation

- Substantive change
- Look at moving flood risk management standard from the DWSRF Program Guidance to our regs
- This would codify requirements already imposed on those in the regulated community that receive DWSRF funds
- Focus on flooding prevention/mitigation
- Federal/state grant money may be available
- Increased cost for new construction not associated with DWSRF
- WAC input requested as ODW is still researching this possible amendment

Item #22 – 12VAC5-590

- Technical change that applies to the complete chapter
- Change the order of some sections if doing so would make the regulations easier to understand or reference
- One example: Regulations specific to lead and copper (-590-375, -590-385, -590-405, & -590-532) are not grouped together but are grouped per category (monitoring, compliance, technique, & reporting)
- WAC input needed by March 2024 WAC meeting

Item # 23 – 12VAC5-590-10,-395, -430, and -505

- New technical item
- Regulatory definition states that “boil water advisory” and “boil water notice” have the same meaning
- Federal SDWA and NPDWR do not define them, and the EPA and CDC primarily use “boil water advisory”
- Consensus is that the general public doesn’t discern between the two terms
- Amend regulations to use “boil water advisory” instead of “boil water notice.”
- In the Tier 1 public notification, can differentiate between the two by adding the word “precautionary” when it’s unknown if the water is contaminated
- No cost

Item # 24 – 12VAC5-590-380(D)(1)

- New substantive item
- Confusion between this regulation and a manual/working memo
- Language in **red** is from the CFR
- Proposed language: For each routine sample found to be total coliform positive, the owner shall collect a set of three repeat samples within 24 hours of being notified of the positive result. The department may extend the 24-hour limit on a case-by-case basis **if the system has a logistical problem in collecting the repeat samples within 24 hours that is beyond its control.**
- No cost

Item # 25 – 12VAC5-590-540(A)(1)(I)

- New substantive item
- Current language: Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the commissioner or department on a case-by-case basis.
- Proposed language: Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the commissioner or department on a case-by-case basis. **An example would be a loss of water pressure that results in the potential for contaminants to enter the depressurized area of a distribution system, such as a water main break, loss of water supply, demand exceeding supply, or closed valve.**
- No cost

QUESTIONS ?

COMMENTS?

Jane S. Nunn, JD, MPA
Policy and Program Coordinator
jane.nunn@vdh.virginia.gov (804)
240-1055



Compliance, Enforcement & Policy Update

- The October Enforcement Targeting Tool (ETT) report - 13 Serious Violators.
- Six of the systems have returned to full compliance.
- Three of the systems are currently under an administrative order and one system has had its order terminated due to full compliance.

Compliance, Enforcement & Policy Update

- The amendments to the Waterworks Operation Fee regulations were approved by the Board of Health in June. They are currently undergoing review at the Secretary of Health and Human Resources' office.
- The revised Enforcement Manual is currently undergoing review at the Office of Regulatory Management within the Governor's Office. If it is approved, the next step after that will be Town Hall for public comment.

Waterworks Advisory Committee

PFAS

Lead and Copper Rule

December, 2023
Robert D. Edelman, PE
Director, Division of Technical Services



PFAS and UCMR 5

UCMR 5 monitoring started January 1, 2023 - runs through December 31, 2025

All waterworks 3,300+, plus a “nationally representative sample” of systems < 3,300

Must monitor for 29 different PFAS compounds, plus lithium

- 25 PFAS by Method 533
- 4 PFAS by Method 537.1

UCMR 5 – Quarterly Data Release (November 2023)

62 Waterworks – Cumulative Summary

	Reference Standard	Detections
Lithium	(HRL of 10 ug/L)	6 waterworks, 4 above the HRL
PFOA	(4.0 ppt)	1 waterworks above 4.0 ppt
PFOS	(4.0 ppt)	6 waterworks above 4.0 ppt
Hazard Index (using health based values):		
GenX	(10 ppt)	None
PFBS	(2000 ppt)	5 waterworks, none above LHA
PFNA	(10 ppt)	1 waterworks, none above LHA
PFHxS	(9 ppt)	6 waterworks, none above LHA

EPA's PFAS regulation timeline

- EPA is targeting early 2024 to issue the final regulation
- The proposed regulation was published in the Federal Register on March 29, 2023
- The comment period ended on May 30, 2023
- Implementation of certain aspects of the final rule will start almost immediately upon publication (prior to the compliance date)
- Initial monitoring to be completed in the three years between the publication date and the compliance date

EPA's proposed PFAS Rule

- A proposed MCL for PFOA = 4.0 ppt
 - A proposed MCL for PFOS = 4.0 ppt
- (these are set at the current level of practical measurement)
- A Hazard Index MCL for PFNA, PFHxS, PFBS, and GenX = 1.0 (unitless)

Also, MCLGs (zero, zero, and 1.0, respectively) and monitoring requirements, etc.

The proposed rule would require public water systems to:

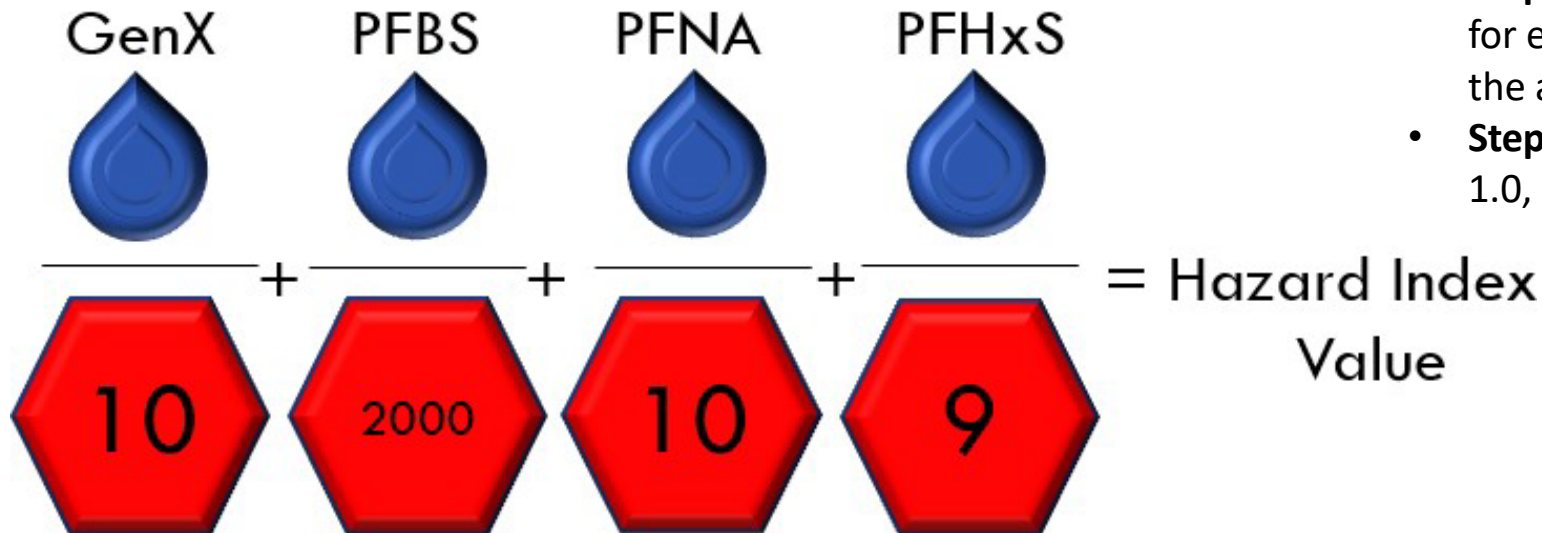
- Monitor for PFAS;
- Notify the public of the levels of PFAS; and
- Reduce the levels of PFAS in drinking water if they exceed the proposed standards

How do I calculate the HI?

The Hazard Index (HI) is used to understand health risks. For the PFAS NPDWR Proposal, the HI considers the combined toxicity of PFNA, GenX Chemicals, PFHxS, and PFBS in drinking water.

What is a Hazard Index?

The Hazard Index is made up of a sum of fractions. Each fraction compares the level of each PFAS measured in the water to the level determined not to cause health effects.



Steps:

- **Step 1:** Divide the measured concentration of **GenX** by the health-based value of **10 ppt***
- **Step 2:** Divide the measured concentration of **PFBS** by the health-based value of **2000 ppt**
- **Step 3:** Divide the measured concentration of **PFNA** by the health-based value of **10 ppt**
- **Step 4:** Divide the measured concentration of **PFHxS** by the health-based value of **9.0 ppt**
- **Step 5:** Add the ratios from steps 1, 2, 3, and 4 together
- **Step 6:** To determine HI compliance, repeat steps 1-5 for each sample collected in the past year and calculate the average HI for all the samples taken in the past year
- **Step 7:** If the running annual average HI greater than 1.0, it is a violation of the proposed HI MCL

Phase 2.2 - where are we today?

- VDH staff collected over 290 samples across Virginia
 - VDH staff re-collected some samples in September due to lab rejection
 - Additional samples re-collected in October due to QA/QC issues
 - VDH completed QA/QC reviews of June samples
 - VDH shared samples with waterworks owners
 - VDH has compiled results and is assembling a PFAS Dashboard
 - VDH has received some FOIA requests for the data - November-December
- VDH is planning future PFAS sampling to address small or disadvantaged communities (2024)
 - VDH will have dedicated funding for PFAS and emerging contaminants under the Emerging Contaminants in Small or Disadvantaged Communities Grant - see ODW website

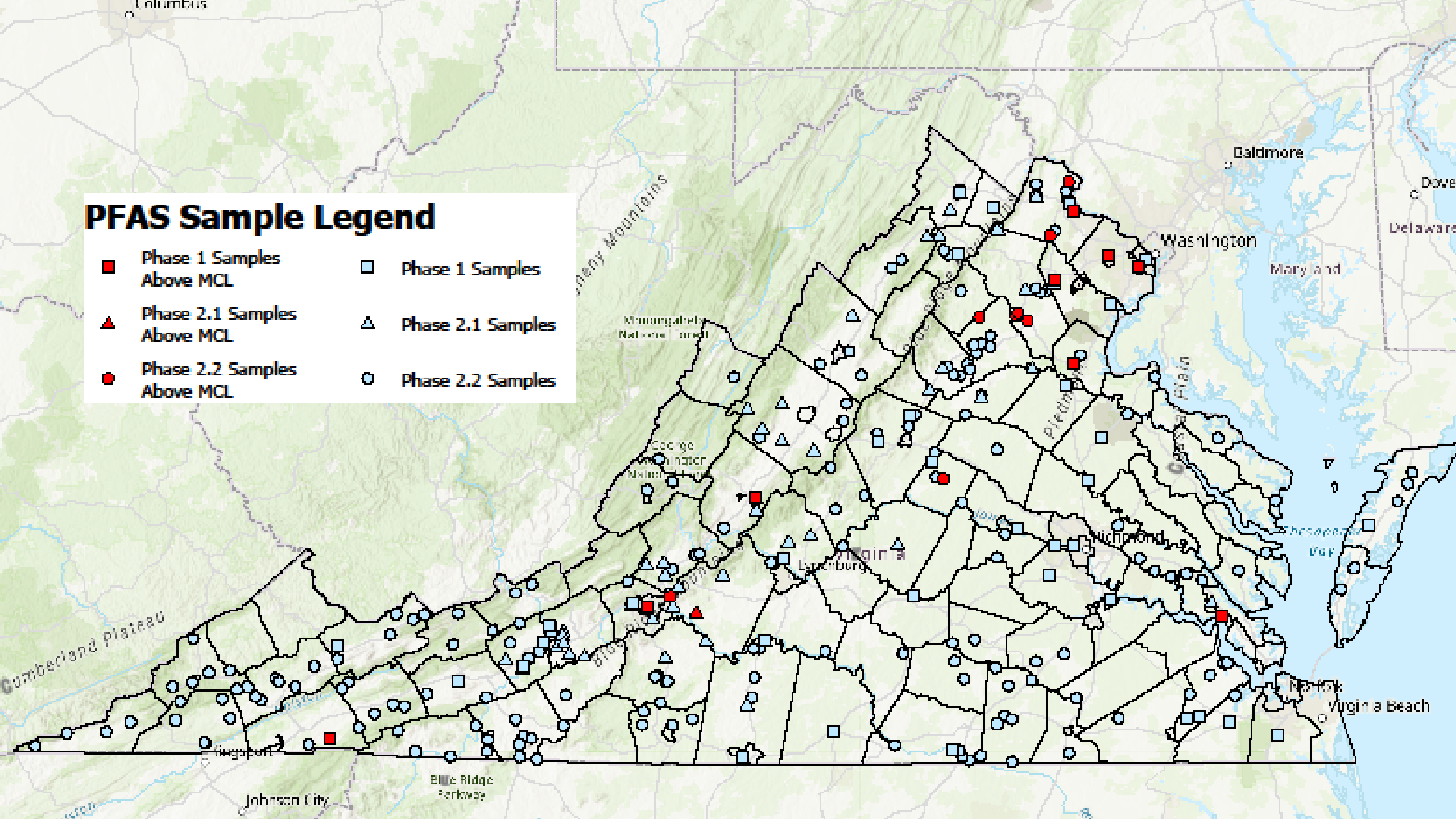
Virginia PFAS Sampling Program

PFAS Sample Summary
parts per trillion (ppt)

		Phase 1 2021	Phase 2.1 2022	Phase 2.2 2023	Total
PFOA	(above 4.0)	4 systems	None	5 systems	9 systems
PFOS	(above 4.0)	5 systems	3 systems	9 systems	15 systems
GenX	(above 10)	1 system	1 system	None	1 system
PFBS	(above 2000)	None	None	None	None
PFNA	(above 10)	None	None	None	None
PFHxS	(above 9)	None	None	1 system	1 system
Waterworks		45	48	221	274
Population Served		5,226,000	557,000	3,934,000	5,849,000

PFAS Sample Legend

- | | |
|-------------------------------|---------------------|
| ■ Phase 1 Samples Above MCL | □ Phase 1 Samples |
| ▲ Phase 2.1 Samples Above MCL | △ Phase 2.1 Samples |
| ● Phase 2.2 Samples Above MCL | ○ Phase 2.2 Samples |



EPA Announces the Lead and Copper Rule Improvements

November 30, 2023 - On EPA's website:

- Prepublication version (622 pages)
- Federal Register - December 6 - (213 pages of tiny print)
- Press release
- General Fact Sheet (3 pages)
- Technical Fact Sheets: States and Public Water Systems (5 pages)
- FAQ: States and Public Water Systems (8 pages)
- Technical Fact Sheet: Calculating Service Line Replacements (4 pages)
- Technical Fact Sheet: Deferred Deadlines for Service Line Replacement (2 pages)
- Technical Fact Sheet: Inventory Validation Requirements (2 pages)
- Comparison Guide for Public Water Systems and Primacy Agencies (13 pages)
- Safewater LCR Database and Associated Files
- Additional Information on Lead Service Lines Including Identifying Funding Sources

EPA Announces the Lead and Copper Rule Improvements

- Achieving 100% Lead Pipe Replacement within 10 years.
 - Requires full replacement of all lead and GRR SLs “under the control” of the system, with limited exceptions
 - “Under the control” is when the system has adequate access to conduct full SL replacement
- Locating Legacy Lead Pipes.
 - Baseline Inventory
 - Annual inventory updates
 - Review records and include locations of lead connectors, track replacement
 - Validate accuracy of certain non-lead service lines, previously determined by other than by records or 2-point visual inspection
 - Publicly available SL replacement plan
 - Identify materials of all unknowns by mandatory replacement deadline
- Expanded SL Replacement Plan Requirements - adds:
 - Identify State and local laws and water tariff agreements impacting access for full SL replacement
 - Communication strategy to inform both consumers and owners of rental properties about the replacement program
 - Make SL Replacement Plan publicly available. For systems > 50,000 post online.
- Improving Tap Sampling.
 - First and 5th liter sampling at sites with LSLs (Tier 1 and 2)
 - Use the higher of the two values for 90th percentile determination
- Lowering the Lead Action Level.
 - Lower Lead Action Level to 0.010 mg/L
- Strengthening Protections to Reduce Exposure.
 - Water systems with multiple lead AL exceedances would conduct additional outreach to customers and make filters available to all customers
 - Deliver consumer notice of lead and copper tap sampling results to consumers within 3 days
 - Waterworks must offer to sample the tap for any customer with a lead, GRR or unknown service line
 - If the lead action level is exceeded, Tier 1 (24 hour) public notification requirements apply

LCRR Update

October 16, 2024, is the compliance date - what is required then?

- Complete and submit the Service Line Inventory to the State
- Submit a Lead Service Replacement Plan to the State (if required)
- Compile and submit a list of schools and child day centers served
- Revise and submit the LCR sampling plan based on the inventory, to reflect any changed monitoring sites
- Prepare for required Public Notifications and Consumer Notifications due thereafter

Check the ODW LCRR Guidance Website for updates!

LCRR Training and Technical Assistance

ODW Contracted with TruePani to provide training and technical assistance.

- In-person training complete in June 2023
- One-on-one technical assistance (TA) is available NOW
- TA Contact information on LCRR Guidance web page:
<https://www.vdh.virginia.gov/drinking-water/lcrr-guidance/>
- TA intended for small waterworks
 - Loudoun County Waterworks formed a “Work Group” - obtained TA as a group
 - Weekly “office hours” meeting Wednesdays at 12 noon.
 - Sign up: valcrr@truepani.com

Submitting your Service Line Inventory

You are not done until you upload your service line inventory through SWIFT Submittals and click SUBMIT TO STATE.

ODW will roll out SWIFT Submittals - Submittals portal for LCRR Lead Service Line Inventories and other LCRR documents in December 2023

- ODW staff is will receive training December 14
- ODW will provide a training webinar on January 18
 - Will be recorded and posted on LCRR Guidance website
- Updates to ODW Service Line Inventory Instructions
 - Clarifications/job aids
- Update to ODW Service Line Inventory Templates
 - Update examples, correct typos and formatting
 - Existing templates will work (no requirement to update)

LCRR – Consumer Notification Requirements

ODW will deploy a webinar in 2024 to focus on:

- Public Notification following Pb ALE (Tier 1)
- Public Education delivery following Pb ALE
- Consumer Notification following lead tap sampling - sharing sample results with customers
- Consumer Notification for customers with Lead, GRR, Unknown service lines
 - Due 30 days after completion of Service Line Inventory
 - Due Annually thereafter

EPA/ODW Cybersecurity Tabletop Exercise

Cybersecurity Overview and Tabletop Exercise for Virginia Drinking Water Utilities

Sponsored by the US Environmental Protection Agency



EPA's Water Infrastructure and Cyber Resilience Division is offering a free Cybersecurity Overview and Tabletop Exercise for Drinking Water Utilities in Virginia. This training will share cybersecurity best practices and free resources to build and maintain strong cybersecurity programs at water utilities.

The Cybersecurity Overview will cover:

- EPA resources available to help water and wastewater utilities improve cybersecurity resilience.
- Common cybersecurity threats against the water sector.
- Basic cyber hygiene practices.
- CISA cybersecurity resources.
- FBI cybersecurity brief.

The tabletop exercise (TTX) is an interactive, scenario-driven discussion which allows participants to discuss how to respond to, and recover from, a cyber incident. This exercise allows participants to:

- Understand how cyber-attacks can occur.
- Assess their cyber response practices.
- Identify ways to improve their cybersecurity posture.
- Engage with cybersecurity experts from EPA, CISA, and the FBI to receive guidance and recommendations to enhance cybersecurity practices.

Continuing Professional Education:

An application for CPE contact hours will be submitted for waterworks operators. Please check the registration page for updates regarding CPEs.

Questions:

Additional questions concerning this training can be directed by email to:
Cole Dutton, Cybersecurity Specialist, U.S. EPA, Water Infrastructure and Cyber Resilience Division
at: Dutton.Cole@epa.gov

Registration Information:

*Wednesday, January 31st,
2024
(9:00 am – 12:00 pm ET)*

[Click Here to Register](#)





Voluntary School and Child Care Lead Testing and Reduction Grant Program

KENDALL SCOTT

Program Supervisor

Financial and Construction Assistance Programs

Agenda

- Background
- Team Introduction
- Program Overview & Goals



Background on Lead in Drinking Water



VA Regulatory Actions

Senate Bill 1359 signed into law, directing local school boards to develop and implement a plan to test for lead in potable water at schools and, if necessary, remediate the water fixtures or sources of lead. (Code of Virginia § 22.1-135.1)

There were no specific reporting requirements associated with this legislation until...

2020 General Assembly passed the following bills:

- [HB797 & SB392 – Local School Boards: Lead Testing, Reporting, Parental Notification](#)
- [HB799 & SB393 – Child Day Programs: Lead Testing, Potable Water](#)

Background on Lead in Drinking Water



VA Regulatory Actions

“Requires each local school board's plan to test and remediate certain potable water sources to be consistent with guidance published by the U.S. Environmental Protection Agency or the Department of Health. The bill requires each local school board to submit such testing plan and report the results of any such test to the Department of Health...”

“Requires licensed child day programs and certain other programs that serve preschool-age children to develop and implement a plan to test potable water from sources identified by the U.S. Environmental Protection Agency as high priority. The bill requires such plan and the results of each such test to be submitted to and reviewed by the Commissioner of Social Services and the Department of Health's Office of Drinking Water...”

Background on Lead in Drinking Water



VA Regulatory Actions

According to Virginia Department of Education (VDOE):

- *132 school divisions, serving 1.3 million children in 1,852 schools*
- *Approximately 4,100 licensed child care programs with a capacity to serve 292,000 children*
- *Approximately 1,400 unlicensed registered child care programs with a capacity to serve 86,000 children*

What does
this mean?



Welcome & Team Introduction

Office of Drinking Water



Program Stakeholders

- 120Water Audit, Inc.
- Division of Consolidated Laboratory Services (DCLS)
- Virginia Polytechnic Institute and State University
- University of Virginia – ITS Custom Applications and Consulting Services
- Virginia Department of Education



Team Contact Email: leadtestingprogram@vdh.virginia.gov

Program Overview & Goals

The **Water Infrastructure Improvements for the Nation Act (WIIN Act)** addresses, supports, and improves America's drinking water infrastructure.

Included in the WIIN Act are three drinking water grants that promote public health and the protection of Virginia's most vulnerable populations.

[Section 2104: Assistance for Small and Disadvantaged Communities](#)

[Section 2105: Reducing Lead in Drinking Water](#)

[Section 2107: Lead Testing in School and Child Care Program Drinking Water](#)

Program Objectives

WIIN 2105

Reducing Lead in Drinking Water

- The objective is to further reduce lead exposure through:
 - **Lead service line replacement** and **treatment improvement** projects for public water systems
 - **Remediation** projects in schools and child care facilities
- Allows funding to cover replacement of publicly and privately-owned lead service lines and prioritizes disadvantaged communities

WIIN 2107

Voluntary School & Child Care Lead Testing

- Assists in funding and implementing **voluntary** programs at schools and child care facilities to promote further sampling for lead in drinking water
- The objective is to identify sources of lead in drinking water, reduce childhood lead exposure, and connect facilities to funding for remediation
- Testing is consistent with [EPA's 3T's for Reducing Lead in Drinking Water in Schools and Child Care Facilities guidance](#)

WIIN 2105 & WIIN 2107 Program Eligibility

WIIN 2105

Reducing Lead in Drinking Water

Eligible applicants include the following:

- Community water systems
- Water systems located in an area governed by an Indian Tribe
- Non-transient non-community water systems
- Qualified nonprofit organizations servicing a public water system
- Municipalities
- State, interstate, or intermunicipal agencies

Individuals and for-profit organizations are **not** eligible to apply

WIIN 2107

Voluntary School & Child Care Lead Testing

Eligible applicants include Public PreK-12 Schools and Licensed Child Care Programs

Selection of facilities will be prioritized according to the following criteria:

- Buildings constructed in or before 1988
- Serves children less than or equal to 6 years old
- 50% or more of children served receive food assistance
- Has not performed lead testing of drinking water taps

[Enrollment](#) is open and FREE!

Program Stages

- Enrollment of Schools and Child Care Facilities
- Screening and Selection of Facilities
- Prepare and Submit Lead Sampling Plans
- Conduct Testing
- Report Results
- Remediation, Replacement, Treatment Improvement

Program Stages



**Sampling Plans
Developed for 65
Facilities**



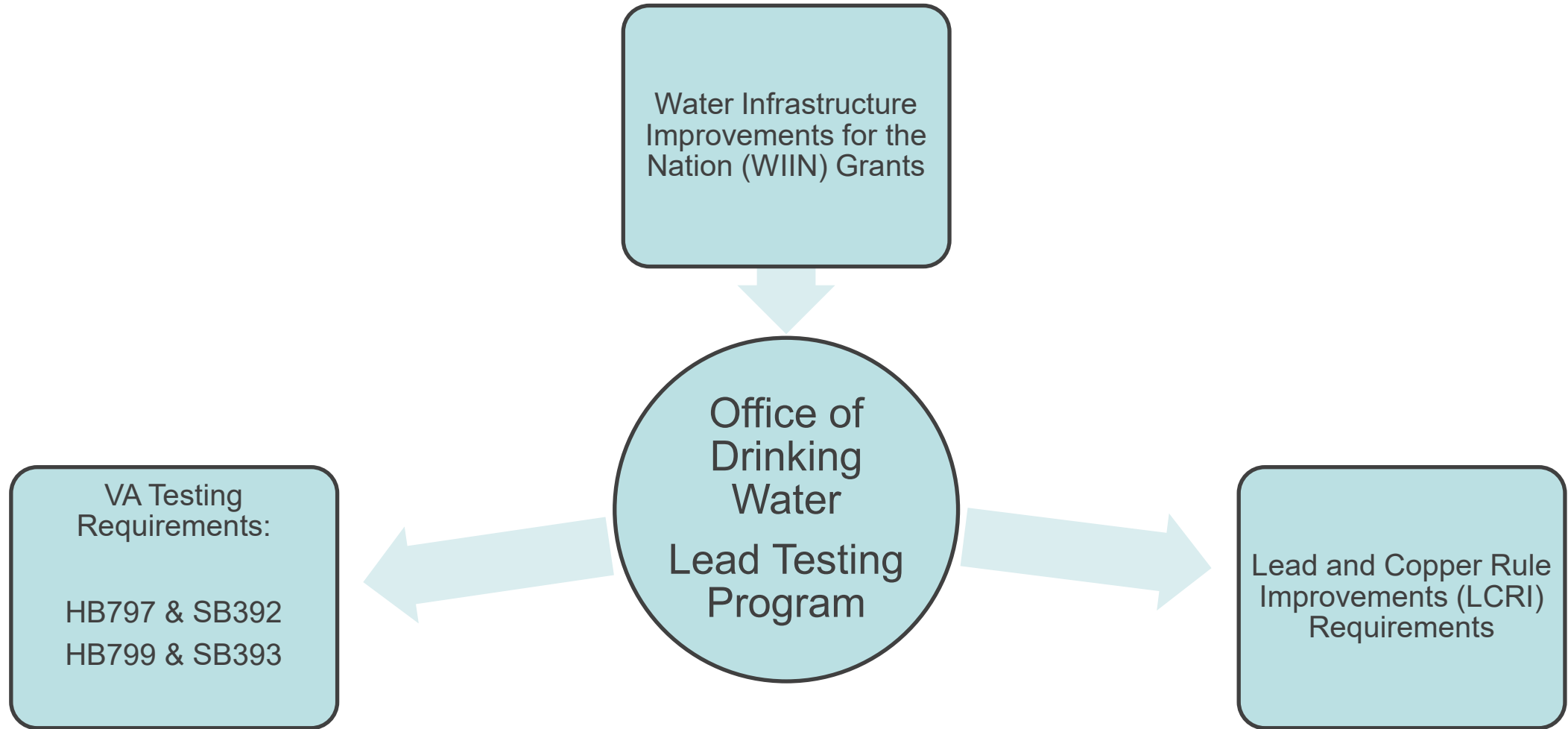
4,475 Samples Collected

58 New Facilities Enrolled

*Training, Plan Development,
Sampling, and Technical
Assistance*

Scheduled January 2024

A Single Approach



How does it differ from sampling under the Lead & Copper Rule (LCR)?

Lead and Copper Rule (LCR)	Voluntary Lead Testing (3Ts Model)
<p>Required for: all community and non-transient noncommunity water systems.</p>	<p>Voluntary Program: to assist schools and child care facilities with training, testing, and taking action.</p>
<p>Sampling Protocol: The LCR takes a <u>system-wide approach</u>. If the 90th percentile lead level concentration of tap samples exceeds the 15 µg/L action level, water systems must take additional actions. The sampling protocol under the LCR includes a <u>1-L first draw sample</u> after a stagnation period of 6 hours.</p>	<p>Sampling Protocol: Only schools and childcare facilities that own and/or operate a public water system must meet the requirements of the LCR. Under the 3Ts, EPA recommends <u>sampling and follow-up actions</u> be taken at each individual outlet. The 3Ts consists of a 2-step sampling protocol, which includes <u>two 250-mL samples</u>: (1) first draw after an 8 to 18 hour stagnation, and (2) a flush sample after 30 seconds.</p>
<p>Follow-Up Actions: Water systems are <u>required to undertake treatment actions</u>, depending upon system size and corrosion control treatment status. These include corrosion control, public education, water quality monitoring, and lead service line replacement.</p>	<p>Follow-Up Actions: The initial sample and the follow-up flush sample will help determine the source of the lead. This includes <u>removing fixtures and repairing/replacing water coolers</u>, to minimize exposure.</p>



How does it differ from sampling under the proposed Lead & Copper Rule Improvements (LCRI)?

Lead and Copper Rule Improvements (LCRI)

Requirement per 40 CFR 141.92(c): “Water systems shall collect samples from at least 20 percent of elementary schools served by the system and 20 percent of child care facilities served by the system per year...”

Requirement per 40 CFR 141.92(b)(1)(vi): Water systems must collect the samples from the cold water tap subject to the following additional requirements:

- (A) Each sample for lead shall be a first draw sample;
- (B) The sample must be 250 ml in volume;
- (C) The water must have remained stationary in the plumbing system of the sampling site (building) for at least 8 but no more than 18 hours; and
- (D) Samples must be analyzed using acidification and the corresponding analytical methods in § 141.89.

Waivers can be offered to CWSs for sampling in the schools and child care facilities if those facilities are sampled under VA WIIN 2107 Grant Program



Why make lead sampling more complicated?

Young children, infants, and fetuses are particularly vulnerable to lead exposure:

- Nervous System Damage
- Reduced IQ and Attention Span
- Learning Disabilities
- Poor Classroom Performance
- Hyperactivity
- Impaired Growth
- Hearing Loss



Why make lead sampling more complicated?

Prolonged lead exposure in adults can lead to:

- Cardiovascular Effects
- Kidney Failure
- Reproductive Problems





Any Questions?

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Lead Testing & Reduction Program

Financial and Construction Assistance Programs (FCAP)

