WATERWORKS ADVISORY COMMITTEE MEETING AGENDA

All-Virtual Public Meeting

December 10, 2024; 1:00 PM to 3:30 PM

Subject	Time (Estimated)
• New member welcome and establish quorum – Dwayne Roadcap	1:00 – 1:05 PM
Waterworks Advisory Committee Administrative Matters • Introduction and review of agenda items – Chair David Van Gelder • Adoption of Meeting Minutes from September 2024 Meeting – Grant Kronenberg	1:05 – 1:10 PM
Source Water Manual • Source Water Manual Revisions Update – Bob Edelman	1:10 – 1:25 PM
Development of Amendments to the Waterworks Regulations • Updates to proposed amendments to the Waterworks Regulations – Jane Nunn	1:25 – 1:55 PM
Licensed Operator Waiver and Remote Monitoring Policies • Discussion of Draft Proposed Policies – Grant Kronenberg	1:55 – 2:20 PM
ODW Finances • Update from the WAC Finances Subcommittee	2:20 – 2:35 PM
Drinking Water Program Discussion • Hurricane Helene: An Emergency Response Case Study – Jessica Coughlin • Lead and Copper Rule Revisions/Lead and Copper Rule Improvements and Lead Service Line Inventory Update – Bob Edelman • PFAS Update – Bailey Davis	2:35 – 3:20 PM

• Compliance, Enforcement & Policy Update – Grant Kronenberg • Plan Review and Data Management Update – Aaron Moses • ODW Staffing Update – Dwayne Roadcap	
Public Comment Period	3:20 – 3:25 PM
Other Business • 2025 Meeting Dates – Discussion	3:25 – 3:30 PM

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:

If accessing via a mobile device, you will need to download the WebEx Meet app prior to joining the meeting.
https://vdhoep.webex.com/vdhoep/j.php?MTID=mcf968c415b4cbef0ada8226d46da569a

When joining the meeting, please use the meeting number and password below:
Meeting number (access code): 2634 606 7124
Meeting Password: Dv2K36dUgkP

You can use your computer audio or join via telephone by calling 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 Grant Kronenberg at 804-629-0989.

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

After you have identified yourself, please mute your phone to reduce any unwanted noise.

DRAFT

Waterworks Advisory Committee Meeting Minutes

In Person; Glen Allen Library, 10501 Staples Mill Road, Glen Allen, VA 23060

Wednesday, September 18, 2024, 10:30 a.m.

Members Present: David Van Gelder (Chair), Water Operator; Skip Harper, Virginia Plumbing & Mechanical Inspectors Association; Tom Fauber, VA ABPA; Joey Hiner, VA SERCAP; Shane Wyatt, DCLS; Chris Pomeroy, Virginia Municipal Drinking Water Association; Michelle Caruthers, VWEA; Mark Estes, VRWA; Ignatius Mutoti, VSPE; Geneva Hudgins, VA AWWA; Anthony Morris, DEQ; Jesse Royall, Sydnor Hydro

Members Who Did Not Participate But Listened Remotely: Caleb Taylor, Virginia Municipal League

Members Absent: Andrea Wortzel, Troutman Pepper; Kathleen Banfield, Virginia Health Catalyst; Russ Navratil, VA AWWA; Whitney Katchmark, Principal Water Resources Engineer

Office of Drinking Water (ODW) Staff: Bailey Davis, Grant Kronenberg, Jane Nunn, Jessica Coughlin, Robert Edelman, Barry Matthews, Rebecca Bliley, Anthony Hess, Daniel Horne, Jack Hinshelwood, James Reynolds, Jeremy Hull, Ray Weiland, Steve Kvech, Fiora DeBorous

Meeting Overview

The Waterworks Advisory Committee (WAC) met in person at the Glen Allen Public Library on Wednesday, September 18, 2024. The meeting was also attended by electronic communication means via WebEx.

There were enough WAC members present to establish quorum.

The meeting was called to order at 10:36 a.m.

WAC Chair David Van Gelder introduced himself followed by brief introductions of those in attendance to introduce themselves.

Mr. Van Gelder passed the floor to Grant Kronenberg.

Review and Adoption of Minutes of Meeting

The WAC unanimously approved the June meeting minutes via a voice vote.

ODW Funding Discussion

Mr. Kronenberg stated that the next agenda item, discussion of the ODW budget and funding, was requested by the WAC at its June meeting. Mr. Kronenberg passed the floor to Rebecca Bliley, ODW Business Manager, to review the budget.

Ms. Bliley reviewed the projected 2025 Fiscal Year (FY) ODW budget. Ms. Bliley advised the projected budget is based on FY24 expenditures as the FY25 budget is not yet approved. In review of budget items, Ms. Bliley advised the projected budget includes a 3% salary increase for ODW employees.

Ms. Bliley stated that the budget considers the following items: incoming EPA funding, the continued decrease in funding moving into 2027, and the newly added Business Unit and a need to increase staffing by an additional 55 employees. The increase in staffing was a determined necessity based on an EPA review of the office.

Ms. Bliley advised that ODW receives funding from a variety of sources including federal grants, state general funds and operating fees. Ms. Bliley reviewed the projected funding to be received by ODW from the Drinking Water State Revolving Fund (DSWRF)/Bipartisan Infrastructure Law (BIL) in the amount of $17.9 - $18.12 million, $2.0 - $2.3 million from the Public Water System Supervision (PWSS) grant, $10.1 million state matching funds for DSWRF/BIL grant funding, $0.82 million for state matching for PWSS grant funding, $4.86 million in state general funds, and $1.5 million for sampling verification.

Anthony Hess reviewed the DWSRF and the BIL program. Mr. Hess discussed how the redirection of funding on a federal level, through Congressional-directed projects, has decreased the amount of DWSRF funding.

Mr. Royall questioned if the funding changes in 2021 and 2022 were due to an increase in funding or increase in personnel. Mr. Hess advised that change was due to changes in the way funds were appropriated. He also advised that set-asides were not taken, and those funds were reinvested into construction funding.

Mr. Van Gelder questioned if ODW has maximized at the 31% of allowable set-asides.

Barry Mathews advised the WAC that the funds allocated for 10% staff support and 15% for Capacity Development set-asides have been expended. He stated ODW has chosen to use supplemental set-aside funding to build up staff and program needs in addition to PWSS funds. Mr. Matthews stated that funding is currently sufficient to manage the program through 2026, and the BIL funding ending in 2027 and will cause a significant impact on the program. Mr. Matthews advised that the emergent contaminants set-asides have not been used. Mr. Matthews stated that due to the complexity of the budget it would be beneficial to discuss the topic in greater detail on another forum.

Mr. Van Gelder states this is excellent information to have. He stated this appears to be a $4.3 million fix and considerations should be made to address the issue in the next state budget cycles.

Mr. Royall motioned the WAC for the creation of subcommittee to discuss the budget and financial needs.

Mr. Kronenberg placed the vote on the floor on the creation of the subcommittee. The WAC members in attendance unanimously voted to approve the creation of the subcommittee. Mr. Kronenberg will submit a formal request to WAC members to seek participation on the subcommittee. Mr. Kronenberg advised the WAC that subcommittee meetings will follow the meeting guidelines currently established for WAC meetings.

Mr. Matthews discussed the $100 million American Rescue Plan Act (ARPA) funding allocated to ODW by the General Assembly. Mr. Matthews advised the Committee that 43 projects were funded and $40 million in funding across all projects has been disbursed. Twenty-two projects remain in the design phase, two of which have not presented any funding requests. Forty percent of construction funds have been exhausted.

Ms. Caruthers questioned anticipated risks associated with ARPA funds. Mr. Matthews advised that the funding must be 100% allocated before September 30, 2024. Mr. Matthews advised in order to meet this requirement funds must be pre-obligated.

Revised Remote Participation Policy

Mr. Kronenberg presented for the WAC's consideration a proposed amended electronic meeting policy for fully electronic meetings, and a proposed amended electronic meeting policy to allow individual members to join in-person meetings through electronic means. Mr. Kronenberg stated that the need for adoption of new electronic meeting policies is the result of the General Assembly amending the Virginia Freedom of Information Act.

Mr. Kronenberg reviewed the amendments to *VA Code 2.2-3708.3, Meetings held through electronic communication means; situations other than declared states of emergency.* Mr. Kronenberg stated that these changes to the Virginia Freedom of Information Act's electronic meeting provisions require the WAC to adopt amended policies if it wishes to allow fully electronic meetings and for individual members to join in-person meetings electronically. Mr. Kronenberg briefly reviewed some of the changes in the new law. Mr. Kronenberg stated that he has drafted proposed amended policies that reflect the changes in the law. Mr. Kronenberg confirmed, upon being asked a question by Mr. Pomeroy, that the proposed electronic meeting policies met the requirements of the law.

The WAC voted to unanimously approve the two electronic meeting policies as presented by Mr. Kronenberg. Mr. Kronenberg advised the Committee that the electronic meeting policies will be reviewed annually going forward.

Development of Amendments to the Waterworks Regulations

Jane Nunn discussed draft proposed amendments to the Waterworks Regulations.

Ms. Nunn discussed well abandonment and the Waterworks Business Operation Plan (WBOP). Mr. Royall provided details on national studies regarding the usage of clay slurry, advising most states do not allow clay slurry usage. He advised the use of bentonite slurry with at least 20%

solids for well abandonments may be the best solution. Mr. Royall will forward research and information to Ms. Nunn for review and future discussion. Ms. Nunn will use the information for a final draft for review and approval during the December WAC meeting.

Ms. Nunn reviewed the temporary waiver of the operator requirement under the new statute. Ms. Nunn advised that Mr. Pomeroy and Mr. Kronenberg worked together on clarifying the language for temporary waivers of the licensed operator requirement. Ms. Nunn advised that no regulatory changes were made or necessary at this time, because the statute does not give ODW discretion in granting a temporary operator waiver. Ms. Nunn advised that regulations should not be promulgated if they will only repeat the statutory language.

Ms. Nunn reviewed the new language in the statute regarding remote monitoring. She advised that the proposed language in the regulation is precise enough to allow for changes and fluctuations in technology and allows for future growth. Ms. Nunn advised the proposed addition of 12VAC5-590-461.F.1.d allows for fluidity in rules as needed without an immediate need to re-address the statute.

Ms. Caruthers advised subsection d of the draft regulation needs specifics with the verbiage and the item should only address the requirements. Mr. Pomeroy agreed and advised the WAC of the need to differentiate between the type and reason for remote monitoring. Ms. Nunn advised these measures are to make sure monitoring occurs and is maintained over a secure connection as systems increase the use of various types of technology.

Mr. Van Gelder advised that the language in subsection d needs to be softened to prevent overload as the tasks are currently being performed and the topic should refer to the currently implemented rules. Mr. Kronenberg advised that ODW's plan is to generalize the rules and qualifications as there are various types of required monitoring.

Ms. Nunn advised the Committee that cybersecurity plans are currently required by the American's Water Infrastructure Act (AWIA) to be reviewed every five years. Due to rapid technology changes, however, the annual reviews in subsection d would be more appropriate. Mr. Pomeroy advised that plans need to be submitted and assessments need to be done in accordance with the policy. Several WAC members suggested that the term "reassessment" be used for the annual assessment following the initial assessment to alleviate any confusion on how extensive the annual assessment needed to be.

Ms. Nunn addressed the issue of multiple waterworks being monitored by the same operator. Ms. Nunn advised that for consistency a waterworks owner can submit one plan for multiple waterworks monitored by the same operator. If the submitted plan for any one system is not acceptable, however, ODW will reject entire the plan, and resubmissions will need to be done for each system. Ms. Nunn discussed the need to address any items that could lead to conflicts of interest. Mr. Van Gelder suggested the usage of a fundamental checklist using EPA rules.

Ms. Nunn requested feedback on timeframe requirements to implement changes when cybersecurity assessments have findings that need to be addressed. Mr. Royall advised due to costs, manpower and additional overhead, corrections and adjustments will vary. Mr. Pomeroy mentioned the requirement of a risk mitigation plan. Ms. Nunn advised that this topic will be further discussed in the next quarterly meeting.

Ms. Nunn reviewed the newly added variance clause in the statute and advised that it was only necessary to modify the existing clause in the regulation so that it reflects the requirement in the statute. The WAC agreed to the change.

Licensed Operator Waiver and Remote Monitoring Policies

Mr. Kronenberg thanked the WAC members for having provided feedback on the draft licensed operator waiver and remote monitoring policies since the last WAC meeting. Mr. Kronenberg mentioned changes that have been made to the draft policies since receiving that feedback. Mr. Kronenberg stated that he and Ms. Nunn spoke with Mr. Pomeroy recently and will be looking at further revisions to the draft policies.

Mr. Kronenberg reviewed the Remote Monitoring Policy in brief and advised meeting participants that changes were made to Section III to reflect consistency with current regulations and to address cybersecurity concerns.

Mr. Kronenberg discussed needed changes to Section IV, B regarding regulatory and cybersecurity assessments and that it needs further review and will be discussed in the December quarterly meeting. He will distribute a red-line copy of the draft document to WAC members for review prior to the next quarterly meeting.

Mr. Pomeroy questioned what the essential elements are to receive operator credits. Mr. Kronenberg advised that additional information and conversation will be addressed relating to operator credits and will be discussed during the December WAC meeting.

Drinking Water Program Discussion

Robert Edelman reviewed the Lead and Copper Rule Revisions (LCRR) and Lead and Copper Rule Improvements (LCRI) updates. Mr. Edelman advised that the LCRR Service Line Inventory compliance date is October 16, 2024, and the inventory information needs to be made available to the public on this date. Mr. Edelman advised that notices need to go out to customers for community systems with lead, galvanized requiring replacement and unknown materials service lines within 30 days of completing the inventory but no later than November 15, 2024. Templates are available on the ODW website for use. Mr. Edelman advised that localities with water systems that have no lead or galvanized services lines are allowed to submit a written statement in lieu of providing the inventory.

Mr. Edelman pointed out that the EPA's LCRI rule has delayed or pushed back some of the requirements in the LCRR. He advised that water systems do not need to submit a list of schools and childcare facilities by the October 16, 2024, deadline. See his slides for more details.

Mr. Edelman discussed ODW's Harmful Algal Bloom (HAB) policy. VDH issued a HAB policy in November 2019 as a part of the Source Water Manual. In 2021, as a result of a HAB event on the North Fork Shenandoah River, VDH toxicology staff provided health advisory levels for two additional cyanotoxins: Anatoxin-a and Saxitoxin. As a result of lessons learned, ODW's Emergency Services Coordinator advanced a draft of the HAB policy in 2022. This year, a potential HAB event on the North Fork Shenandoah River highlighted that the HAB policy is a draft. ODW intends to update and finalize this policy and requests input from the WAC, possibly by convening a subgroup of stakeholders to review the policy in detail. Mr. Pomeroy requested information on how the advisory level present in the draft policy was determined and asked that more information on the determination be provided to the group.

Bailey Davis advised that HAB is not a part of ODW regulations, however, rising levels can cause the Commissioner of Health to act on the issue when required, noting EPA is advising states with information in the event actions need to be taken. Mr. Davis advised as an emerging contaminant, ODW would like to get ahead of any potential issues.

Mr. Kronenberg advised that this item will move forward to the December agenda. Mr. Kronenberg offered to include the state toxicologist in the meeting to discuss how the advisory level determination was made.

Public Comment Period

Mr. Van Gelder invited members of the public and participants who are not on the advisory committee to comment. No public comments were made.

Conclusion

The final WAC meeting of calendar year 2024 is scheduled for December 11, 2024 (virtual via WebEx).

The meeting adjourned at 1:04 p.m.

HAB Policy Update
Waterworks Advisory Committee
December 10, 2024

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

HAB Policy Update

HAB Policy Overview

Step 1 – Monitor for algal bloom

Step 2 – Monitor raw water for cyanotoxins

Step 3 - Monitor finished water for cyanotoxins

Step 4 – Consider issuing a Do Not Drink Notice

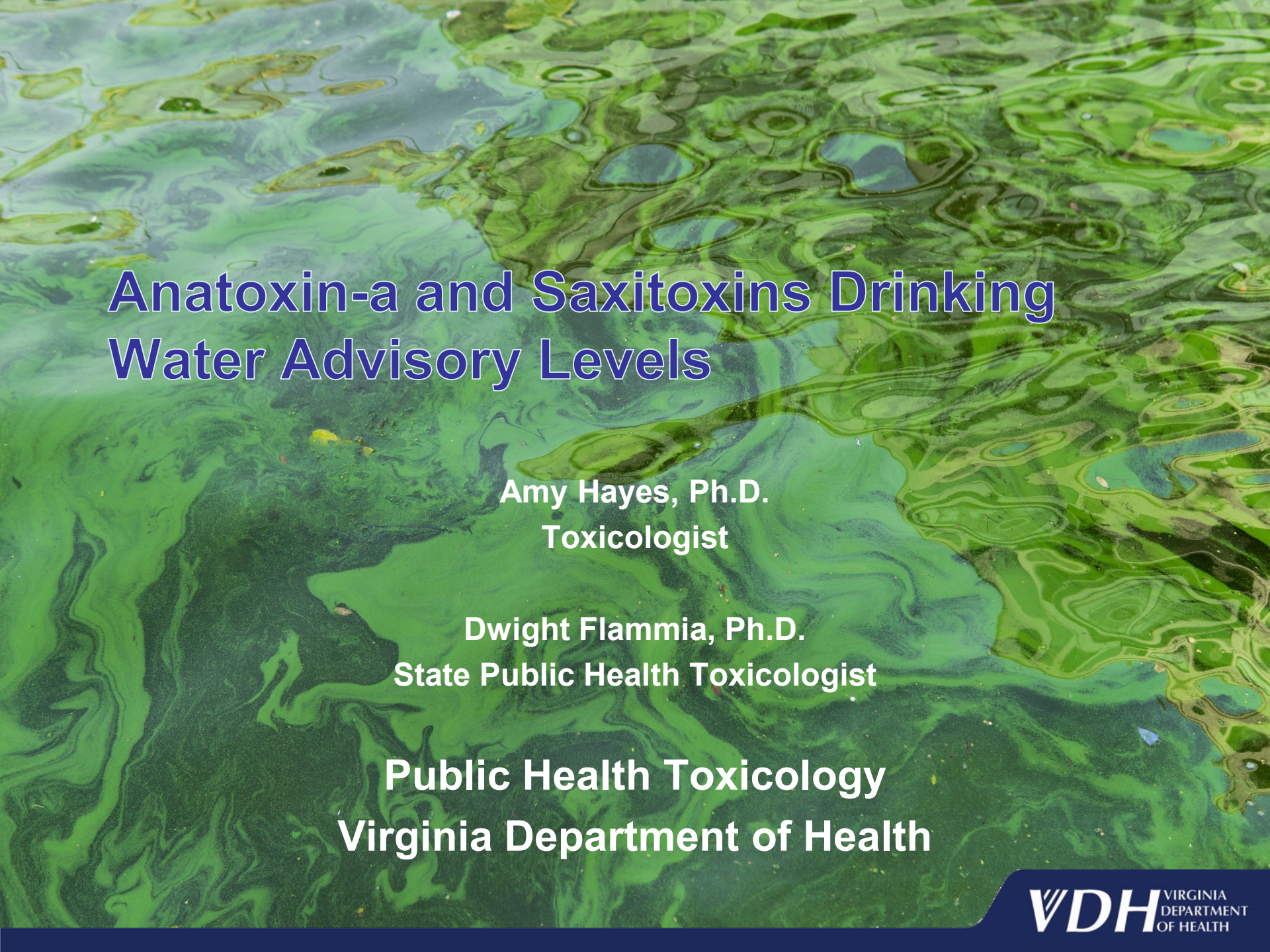
HAB Policy Update

Current Policy

Toxin	Health advisory levels for children less than 6 years old	Health advisory levels for children 6 years old through adults
Microcystins	0.3 µg/L	1.6 µg/L
Cylindrospermopsin	0.7 µg/L	3.0 µg/L

Proposed Policy

Toxin	Health Advisory Level (10-day)
Microcystins	0.3 µg/L
Cylindrospermopsin	0.7 µg/L
Anatoxin-a	0.4 µg/L
Saxitoxin	0.2 µg/L



Anatoxin-a and Saxitoxins Drinking Water Advisory Levels

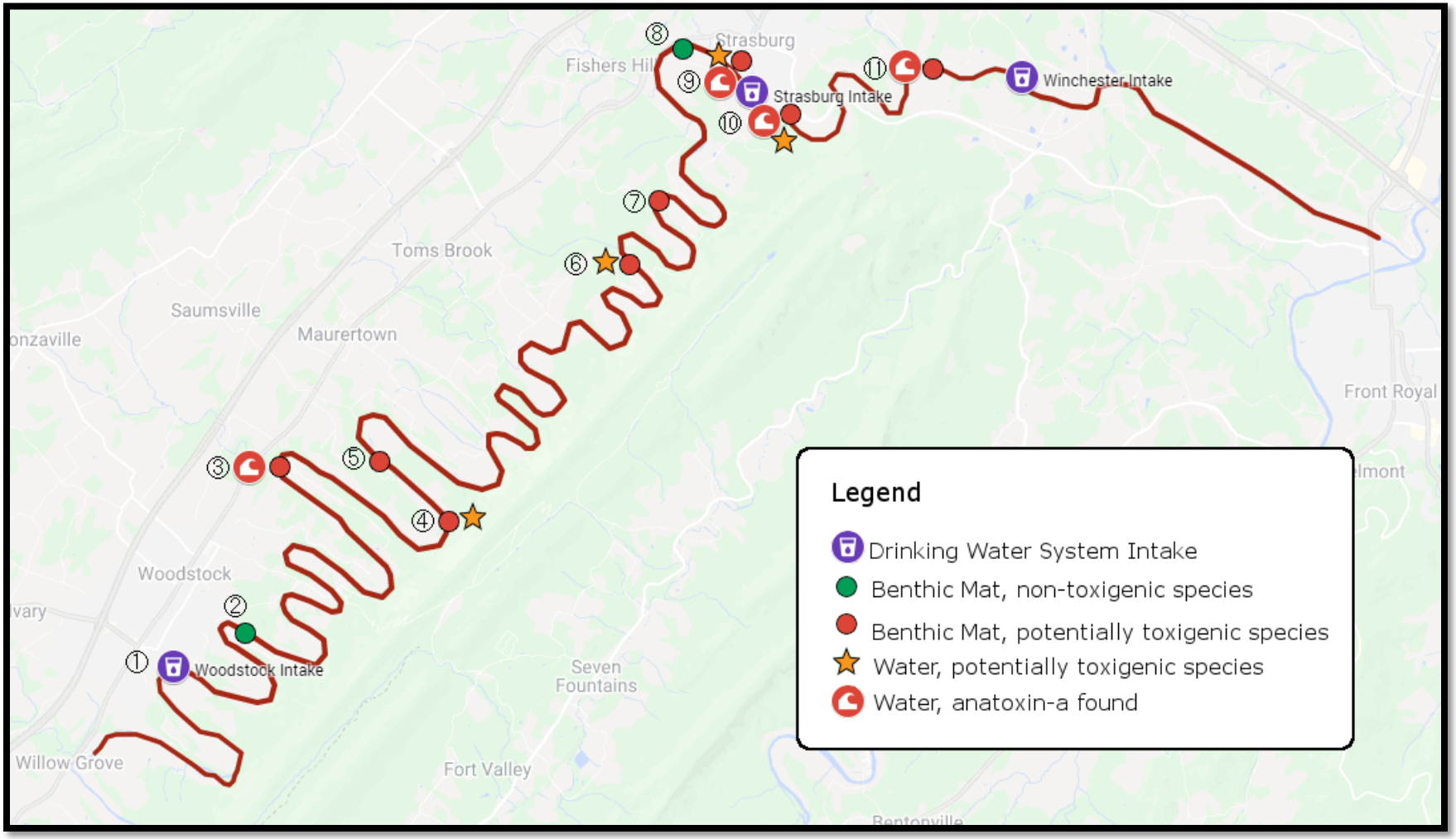
Amy Hayes, Ph.D.
Toxicologist

Dwight Flammia, Ph.D.
State Public Health Toxicologist

Public Health Toxicology
Virginia Department of Health

VDH VIRGINIA DEPARTMENT OF HEALTH

North Fork Shenandoah Bloom, 2021



Anatoxin-a

- Originally named “very fast death factor” since animals poisoned with it often died within minutes.
- Produced by multiple species of cyanobacteria.
- Responsible for death of livestock, dogs, and wild animals during harmful algal blooms.
- A neurotoxin, causes abnormal skin sensations, blurred vision, muscle weakness, and possibly respiratory failure or death.
- May reduce immune function.
- Degrades rapidly with exposure to sunlight, but can persist for months absorbed to clay and organic matter deep in the water. Mixed data on its ability to bioaccumulate.

Saxitoxins

- A group of about 50 structurally related compounds, of which saxitoxin is the most toxic.
- In saltwater produced by dinoflagellates, in fresh water produced by cyanobacteria.
- Responsible for death of livestock, dogs, and wild animals (including whales and seals) during harmful algal blooms.
- The cause of paralytic shellfish poisoning.
- Neurotoxins, cause dizziness, skin tingling and numbness, and a feeling of “floating” disconnected from the body. Can cause respiratory failure and death.
- Can persist for months in surface water. In areas where blooms are persistent, it can bioaccumulate in shellfish, crustaceans, and fish.

Advisory Level Calculations

- Determine a reference dose (RfD)
  - Determine a point of departure (POD), a dose with low or no health effects, from animal or human studies
  - Apply uncertainty factors (UF)

$$\mathrm{RfD} = \frac{\mathrm{POD}}{\mathrm{UF}}$$

- Calculate the concentration (C) in water a person could drink to reach this reference dose
  - Account for consumption from other sources (relative source contribution, RSC)
  - Calculate across different age groups
  - Use 95th percentile drinking water intake (DWI) determined in EPA Exposure Factors Handbook

$$\mathrm{C} = \frac{\mathrm{RfD} \times \mathrm{RSC}}{\mathrm{DWI}}$$

Anatoxin-a Calculated Advisory Level

- POD: NOAEL from a 28-day mouse study (Fawell et al., Hum. Exp. Toxicol. 1999;18:168–173)
- UF: 1000 (10× species difference, 10× interindividual differences, 10× insufficient database)
- RSC: 1

Advisory level of 0.4 ppb should be protective of all people.

For a 0–3 month old infant:

$$\mathrm{RfD} = \frac{\mathrm{POD}}{\mathrm{UF}}$$

$$\mathrm{RfD} = \frac{98\ \mu\mathrm{g/kg/day}}{1000}$$

$$\mathrm{RfD} = 0.098\ \mu\mathrm{g/kg/day}$$

$$\mathrm{C} = \frac{\mathrm{RfD} \times \mathrm{RSC}}{\mathrm{DWI}}$$

$$\mathrm{C} = \frac{0.098\ \mu\mathrm{g/kg/day} \times 1}{1.1136\ \mathrm{L/kg/day}}$$

$$\mathrm{C} = 0.42\ \mu\mathrm{g/L}$$

0.4 µg/L = **0.4 ppb**

Saxitoxins Calculated Advisory Level

- POD: NOAEL from European Food Safety Authority study on toxicity in humans
- UF: 10 (10× insufficient database)
- RSC: 1

Advisory level of 0.2 ppb should be protective of all people.

For a 0–3 month old infant:

$$\mathrm{RfD} = \frac{\mathrm{POD}}{\mathrm{UF}}$$

$$\mathrm{RfD} = \frac{0.50\ \mu\mathrm{g/kg/day}}{10}$$

$$\mathrm{RfD} = 0.050\ \mu\mathrm{g/kg/day}$$

$$\mathrm{C} = \frac{\mathrm{RfD} \times \mathrm{RSC}}{\mathrm{DWI}}$$

$$\mathrm{C} = \frac{0.050\ \mu\mathrm{g/kg/day} \times 1}{1.1136\ \mathrm{L/kg/day}}$$

$$\mathrm{C} = 0.22\ \mu\mathrm{g/L}$$

0.2 µg/L = **0.2 ppb**

Region	Anatoxin-a (ppb)	Assumptions	Saxitoxins (ppb)	Assumptions
Virginia	0.4	Protective of all age groups, NOAEL from Fawell 28-day mouse study	0.2	Protective of all age groups
California	4	NOAEL from Fawell 5-day mouse study	0.5	RSC 0.2, single day exposure. No short-term value provided.
Minnesota	0.1	UF 300, RSC 0.8, included dose adjustment factor	--	N/A
Ohio*	0.3/1.6	Different NOAEL chosen (Astrachan and Archer 1981, Astrachan et al. 1980), body weight and water intake slightly vary	0.3/1.6	Body weight and water intake slightly vary
Oregon	3.0	Assumed adult body weight of 60 kg (132 lbs)	1.0	Assumed adult body weight of 60 kg (132 lbs)
Vermont	0.5	No details available	--	N/A
WHO	30**	UF 100, assumed adult body weight of 60 kg (132 lbs)	3***	Assumed infant body weight 5 kg and lower water intake, UF 3
New Zealand	6	Assumed adult body weight of 70 kg (154 lbs)	3	NOAEL from LD_{50} of saxitoxin in mice, assumed adult body weight of 70 kg (154 lbs), UF 3000, RSC 0.8

*The first value is for children under 6 years old, the second is for those older than 6 years.
**"Short-term drinking water value", also recommend bottled water for infant formula and small children when levels exceed 6 ppb for "short periods".
***Acute drinking water guidance value, shall not be exceeded even for a short period.

Waterworks Regulations

December 10, 2024

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

Office of Drinking Water
Safe Drinking Water for a Healthy Virginia

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Remaining Topics

2 amendments remaining for discussion:

- Well abandonment in 12VAC5-590-475
- § 32.1-172.1(B) Remote monitoring credit

Proposed regulatory language is in red

FYI on regulatory amendments for federal PFAS Rule and Consumer Confidence Report Rule Revisions (CCR3)

Item #1 – 12VAC5-590-475 B

- 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~~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.
  5~~10~~. The location of the well shall be permanently documented for future reference.
  6. Permanent abandonment of a well shall be in accordance with both this subsection and the Private Well Regulations, 12VAC5-630-450.
- The Private Well Regulations have been amended, and 12VAC5-630-450 is specific to permanent abandonment.

Item #1 cont. – 12VAC5-590-475 B

12VAC5-630-450 D, Permanent abandonment.
The object of proper permanent abandonment is to prevent contamination from reaching groundwater resources via a component of the well, including casing, annular space, and well cap. Permanently abandoned wells, with the exception of bored wells abandoned per the methods identified in subdivisions 5 a and 5 b (3) of this subsection shall no longer be classified as wells. A permanently abandoned well shall be abandoned in the following manner:

1. Casing material may be salvaged.
2. Before the well is abandoned, it shall be checked from land surface to the entire depth of the well to ascertain freedom from obstructions that may interfere with abandonment operations.
3. The well shall be thoroughly chlorinated using the dosage rates in 12VAC5-630-430 prior to abandonment.
4. Grout used in well abandonment shall conform to 12VAC5-630-400 E (see slide 5).
5. See slide 6.

Item #1 cont. - 12VAC5-590-475 B

12VAC5-630-400 E. Grout.

The grouting material used shall meet the appropriate specification listed in this subsection.

1. Neat cement grout shall consist of cement and water with not more than six gallons of water per bag (94 pounds) of cement.

2. Bentonite clay may be used in conjunction with neat Portland cement to form a grouting mixture. The bentonite used must be specifically recommended by the manufacturer as being suitable for use as a well grout material and cannot exceed 6.0% by weight of the mixture.

3. Bentonite clay used for grouting shall be sodium bentonite with a minimum of 20% clay solids by weight of water. The bentonite clay shall be specifically recommended by the manufacturer for use as a grouting material.

An exception exists (i) when exceptional conditions require the use of a less fluid grout, to bridge voids, a mixture of cement, sand and water in the proportion of not more than two parts by weight of sand to one part of cement with not more than six gallons of clean water per bag of cement may be used if approved by the district or local health department, or (ii) for bored wells only, a concrete (1-part sand, 1-part cement, 2-parts pea gravel mix with all aggregates passing a 1/2-inch sieve) grout with not more than six gallons of clean water per bag of cement may be used provided a minimum three-inch annular space is available.

4. Other grouting materials may be approved by the division on a case-by-case basis. Review and approval shall be based on whether the proposed material can consistently be expected to meet the intent of grouting expressed in 12VAC5-630-410 F 2. The proposed material must be an industry acceptable material used for the purpose of grouting water wells. Controlled low strength material (flowable fill) or other product incorporating fly ash, other coal combustion byproducts, or other wastes shall not be approved for use as grout.

Item #1 cont. - 12VAC5-590-475 B

12VAC5-630-450 D 4 cont:
5. Bored wells, rock or brick-lined, and uncased wells shall be abandoned using one of the following methods …
6. Drilled wells, including observation, monitoring, and remediation wells constructed in collapsing material shall be completely filled with grout placed via a tremie pipe. The well shall be capped with clean fill mounded to a minimum of one foot above the surrounding ground surface and graded to provide positive drainage away from the well.
7. Drilled wells, including observation, monitoring, and remediation wells, constructed in consolidated rock formations or which penetrate zones of consolidated rock shall be completely filled with grout placed via a tremie pipe. At the discretion of the water well service provider, the well 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 the land surface. The remainder of the well shall be filled with grout placed via a tremie pipe. The well shall be capped with clean fill mounded to a minimum of one foot above the surrounding ground surface and graded to provide positive drainage away from the well.
8. Other abandonment procedures may be approved by the division on a case by case basis.
9. When bored wells are advanced and a water source is not found, and the casing has not been placed in the bore hole, the well bore shall be abandoned by backfilling with the cuttings or clean fill or both to at least five feet below the ground surface. A two-feet-thick plug of grout shall be placed at a minimum of five feet from the ground surface. The remainder of the bore hole shall be filled with the cuttings or clean fill or both.

Item #2 – § 32.1-172.1(B), Remote Monitoring Credit

- § 32.1-172.1(B) Where a waterworks or treatment facility identified as a classified waterworks or treatment facility by the Department is equipped with adequate technological capability, the Department shall credit remote monitoring of the facility by a licensed operator of the appropriate class as operator attendance, provided that the owner submits and the Department approves a remote monitoring plan demonstrating that the waterworks or treatment facility possesses sufficient technology for the remote operator to adequately monitor the waterworks or treatment facility and manage onsite operators with a lower license class, mechanics, or other staff to operate the waterworks or treatment facility under the remote operator's direct supervision. In determining whether to approve a remote monitoring plan for multiple waterworks or treatment facilities, the Department may consider the number of waterworks or treatment facilities the remote operator is monitoring simultaneously, whether the multiple facilities being monitored remotely are under common ownership, whether the remote operator is employed by the owner of the multiple facilities, and whether occasional in-person attendance is provided, among other factors. The Department may cease crediting remote monitoring if the Department finds that continued operation pursuant to the remote monitoring plan presents a public health threat due to statutory, regulatory, or permit violations. The Department shall not credit remote monitoring by an operator without the appropriate license class who is operating the waterworks or treatment facility pursuant to a temporary waiver issued under paragraph A of this section.

Item #2 cont. – § 32.1-172.1(B), Remote Monitoring Credit

New subsection, 12VAC5-590-461.F. Remote monitoring attendance credit.

1. In accordance with § 32.1-172.1 of the Code of Virginia, the department shall consider the following factors in determining whether to approve a remote monitoring plan:

a. The ability of the waterworks to continue to comply with applicable statutory, regulatory, and permit obligations;

b. The ability of the waterworks to timely respond to any emergency;

c. Whether the remote monitoring plan accounts for cybersecurity risks and potential disruptions to remote monitoring or the remote operator's communications with onsite staff;

d. The existence of a cybersecurity assessment or reassessment using a department-approved assessment tool that was performed within 12 months of submission of the remote monitoring plan for approval;

e. The existence of a written strategy to address the findings of the cybersecurity assessment and a timeline for making any modifications to the cybersecurity;

f. The existence of a Cybersecurity Risk Mitigation and Response Plan; and

g. Other relevant factors identified by the department.

Item #2 cont. – § 32.1-172.1(B), Remote Monitoring Credit

12VAC5-590-461.F (cont.)

2. For multiple waterworks or treatment facilities, the department shall consider the following factors in determining whether to approve a remote monitoring plan:

a. The requirements listed in subpart 1 of this section;

b. The number of waterworks or treatment facilities the remote operator is monitoring simultaneously;

c. Whether the multiple facilities being monitored remotely are under common ownership,

d. Whether the remote operator is employed by the owner of multiple facilities;

e. Whether occasional in-person attendance is provided; and

f. Other relevant factors identified by the department.

Item #2 cont. – § 32.1-172.1(B), Remote Monitoring Credit

12VAC5-590-461.F (cont.)

3. The owner shall perform a cybersecurity assessment or reassessment using a department-approved assessment tool at least annually. In response to that assessment or reassessment, the owner shall: a) create or update the written strategy to address the findings of the cybersecurity assessment or reassessment and a timeline for making any modifications; b) update the Cybersecurity and Risk Mitigation Plan in response to the assessment or reassessment's findings; and c) within 90 days of the assessment or reassessment, certify to the department that these requirements have been completed. An extension beyond the 90 days may be granted for good cause at the discretion of the department

4. The department may cease crediting remote monitoring upon finding that continued operation pursuant to the remote monitoring plan presents a public health threat due to statutory, regulatory, or permit violations.

5. Remote monitoring will not be credited as operator attendance in the circumstance of an operator who does not possess a license with a classification equal to or higher than the classification of the waterworks or water treatment plant being operated and is operating such facility pursuant to a temporary waiver issued under § 32.1-172.1 A of the Code of Virginia.

Item #3 – Regulatory Amendments for PFAS and CCR3

- Primacy package for PFAS received and primacy package for CCR3 expected early January 2025.
- Amendments to the Waterworks Regulations will be as strict as but no stricter than the federal rules (ODW will not be making any changes).
- A copy of the proposed amendments will be provided to the WAC at its March meeting.

Jane S. Nunn, JD, MPA
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Licensed Operator Temporary Waiver & Remote Monitoring Policies

Waterworks Advisory Committee Meeting
December 10, 2024

Grant E. Kronenberg
ODW Director of Division of
Compliance, Enforcement & Policy

Licensed Operator Temporary Waiver Policy

- Primary changes to the draft policy since presented to the WAC in September:
  - Removed “24-hour requirement”
  - Focus on hiring a new operator rather than filling a specific “vacancy”
  - Highlight variance option
  - Internal tracking

Remote Monitoring Policy

- Primary changes to the draft policy since presented to the WAC in September:
  - Owner must provide same certification if they do not use the template application
  - List of ODW-approved cybersecurity assessment methods
  - Removed “passive” versus “active” monitoring consideration
  - Certification of existence of Cybersecurity Risk Mitigation and Response Plan
  - Clarified items that the owner is expected to provide when applying

Remote Monitoring Application

- Primary changes to the draft template application:
  - Availability of alarm and setpoint levels, piping and instrumentation
  - Performance of cybersecurity assessment or reassessment
  - Creation of a strategy to address cybersecurity assessment or reassessment findings

Grant E. Kronenberg
ODW Director of Division of
Compliance, Enforcement & Policy

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DRAFT

VDH Office of Drinking Water
Waterworks Temporary Licensed Operator Waiver Policy

I. Background

The Code of Virginia § 32.1-172.1.A (Code) establishes a statutory obligation for a classified waterworks to employ or contract with an operator holding a current waterworks operator license that is at least the same class as the waterworks. The Waterworks Regulations, at 12VAC5-590-461, also establish operator attendance requirements.

Code § 32.1-172.1.A also establishes a temporary waiver of the operator requirement when there is an unexpected vacancy in the appropriately classed licensed operator position and certain specific requirements are met by the waterworks. Death, extended illness, firing for cause, resignation, or "similar cause" all qualify as an "unexpected vacancy."

In the case of an unexpected vacancy under the Code, the owner of the waterworks (Owner) is required to notify the Virginia Department of Health (VDH) "promptly and in accordance with any specific timeframe directed by the" State Board of Health which, per 12VAC5-590-461.B of the Waterworks Regulations, is "as soon as practicable but no later than 24 hours" after the waterworks is without the required operator.

If the Owner experiences an unexpected vacancy as described in Code § 32.1-172.1.A, then VDH waives the licensed operator requirement. To continue to receive the benefit of the waiver, the Owner must: (1) within five days of the vacancy, notify VDH in writing of its designation of another licensed operator who will be responsible for interim operations; (2) within 10 days of the vacancy, notify VDH in writing of the Owner's plan to hire a replacement operator who holds the required class of license; (3) implement the hiring plan diligently; and (4) provide VDH with a monthly report on the implementation and progress of the hiring plan.

The Code allows VDH to revoke the temporary waiver if the Owner fails to meet any of the four steps required by the statute or if VDH "finds that continued operation pursuant to the waiver presents a public health threat due to statutory, regulatory, or permit violations."

II. Purpose

VDH establishes this Waterworks Temporary Licensed Operator Waiver Policy (Policy) to establish how VDH's Office of Drinking Water (ODW) will: (1) review circumstances where an Owner may be eligible for a waiver of the licensed operator requirement; (2) determine whether the statutory requirements for the waiver are met; and (3) determine whether revocation of a waiver is appropriate.

III. Waiver Request Intake

The ODW field office responsible for the locality where the waterworks is located makes the initial determination as to whether the Owner has satisfied all statutory obligations to receive the benefit of the temporary waiver of the licensed operator requirement. The field office

director identifies who within the field office is chiefly responsible for making the initial determination of eligibility for this waiver. The assigned member of field office staff completes the Temporary Waiver of Operator Attendance Review Sheet (Review Sheet), a copy of which is attached.

Before informing the Owner of any decision regarding a temporary licensed operator waiver, the field office informs the Director of the Division of Compliance, Enforcement, and Policy (CEP) about the request and provides all supporting documentation. CEP is responsible for ensuring consistent application of the Code's requirements between field offices.

IV. Waiver Review

A. Notice of the Vacancy

In accordance with 12VAC5-590-461.B of the Waterworks Regulations, the Owner must provide ODW with notice within 24 hours that the waterworks is without the required operator. The Owner may provide notice either orally or in writing. The ODW field office staff member who receives the initial communication from the Owner asks the Owner for the date and time that the Owner first learned of the vacancy. In order to determine whether notice was provided timely, the responsible field office staff member may ask the Owner to provide documentation establishing the date and time when the vacancy occurred. If the Owner did not provide notice within 24 hours, the ODW field office addresses the owner's failure as a matter of regulatory noncompliance. Failure to provide timely notice does not disqualify the Owner from receiving the temporary licensed operator waiver, however.

B. Unexpected Vacancy

The Code states that an unexpected vacancy includes the operator position becoming vacant due to death, extended illness, firing for cause, resignation, "or similar cause." The use of the words "vacated" and "vacancy" in the Code indicate that the Owner must be seeking to hire a new properly licensed operator for the temporary waiver to potentially apply.

In considering whether a particular vacancy fits within the term "similar cause," ODW analyzes whether the reason for the waterworks' vacancy is similar to the reasons for an unexpected vacancy specifically set forth in the statute. In doing so, ODW should consider whether the vacancy was in some manner unexpected and could not have been anticipated, as opposed to something that could have been planned for, such as the retirement of a licensed operator where significant notice was provided.

A waterworks might require multiple licensed operators of a particular class in order to cover a waterworks' hours of operation. While a waterworks that requires multiple sufficiently licensed operators may still have some properly licensed operators despite having a vacancy, the Owner would still be eligible for the temporary licensed operator waiver if all requirements are met and an unexpected vacancy causes the waterworks to be unable to meet the operator attendance requirement.

C. Initial Granting of the Temporary Waiver

If the waterworks experiences an unexpected vacancy of a properly licensed operator as described above, VDH grants a temporary waiver from the licensed operator requirement. To avoid any misunderstanding on the part of the Owner regarding ongoing requirements to continue to receive the benefit of the temporary waiver, the ODW field office confirms in writing that the Owner qualifies for the waiver and directs the owner to Code § 32.1-172.1.A. A template letter providing notification of the requirements to receive the ongoing benefit of the waiver is attached. The field office can also send the template letter as an email.

D. Continuation of the Temporary Waiver

As explained in further detail below, to continue to receive a temporary waiver from the licensed operator requirement, the Owner must: (1) timely designate an interim operator in writing; (2) timely submit a written hiring plan to ODW; (3) diligently implement the hiring plan; and (4) submit monthly reports to ODW explaining the Owner's progress in implementing the hiring plan.

i. Designation of an Interim Operator

Within five days of the vacancy, the Owner must provide ODW with a written designation of an operator holding an operator's license who will be responsible for interim operations until the Owner fills the vacancy with an operator holding a license of the appropriate class. The ODW field office reviews documentation regarding the date of the vacancy to determine whether the Owner satisfies this requirement.

ii. Hiring Plan Submission

Within 10 days of the vacancy, the Owner must provide ODW with the Owner's plan to hire a properly licensed operator to fill the vacant operator position. The ODW field office reviews the submission to confirm it states a plan to hire a properly licensed operator to fill the vacancy. The field office's review of the hiring plan is focused on whether the Owner has made a good faith effort to state a hiring plan that is reasonably calculated to fill the vacancy. Additionally, the field office reviews documentation regarding the date of the vacancy to determine whether the Owner timely submitted the written hiring plan.

iii. Hiring Plan Implementation and Monthly Report

The Owner must implement the hiring plan diligently, meaning that the Owner is constantly working to hire an operator pursuant to the hiring plan, and provide a monthly report to ODW regarding the implementation and progress of the Owner carrying out the submitted hiring plan. The Owner complies with this requirement if they submit the required report at any point during every month until the vacancy is filled and if the report shows continuous efforts to fill the vacancy in accordance with the hiring plan.

The ODW field office tracks whether the monthly report has been received. The field office also reviews the monthly report to determine if the Owner is diligently implementing the hiring plan. The field office may ask for more information, including documentation, from the Owner with respect to efforts to hire an operator to determine whether the hiring plan is being implemented diligently.

E. Determination of Failure to Satisfy Requirements for Continuation of the Temporary Waiver

The ODW field office notifies the Director of CEP, including providing a completed Review Sheet, if the field office determines that the Owner failed to meet any of the requirements in Section D.

Upon notice from the field office, CEP reviews the Review Sheet, including all supporting documentation, confers with the field office as needed, and determines whether the Owner has failed to comply with the requirements to continue to receive a temporary waiver from the licensed operator requirement. CEP informs the field director of CEP's determination, and the field director discusses the determination with CEP as needed. The field director sends a letter notifying the Owner that the temporary waiver has been revoked due to the Owner's failure to comply with the statutory requirements. A template letter notifying the Owner of the revocation of the waiver is attached.

V. Authority to Revoke a Temporary Waiver of the Operator Requirement

If ODW identifies any violation of statute, regulation, or permit condition, whether occurring prior to the unexpected vacancy of the licensed operator position or after the vacancy has occurred, the ODW field office examines the violation to determine whether the waterworks operating under a temporary waiver of the licensed operator requirement is a public health threat. The field office's analysis focuses on whether the violation and the associated public health threat is unlikely to be resolved without the waterworks having a properly licensed operator.

The field office confers with CEP before any letter is sent to the Owner notifying them that the temporary waiver has been revoked. A template letter informing an Owner that a temporary waiver is revoked is attached.

VI. Right to an Administrative Hearing

If ODW denies or revokes a temporary waiver, the Owner has a right to an administrative proceeding pursuant to the Administrative Process Act and the Waterworks Regulations.

VII. Other Options to Address Operator Attendance Challenges

Code of Virginia § 32.1-172.1.C authorizes VDH to reduce operator attendance requirements on a case-by-case basis for all classified waterworks. Consequently, if a waterworks does not qualify for the temporary licensed operator waiver initially, or fails to continue to qualify for the waiver during the period of the vacancy, ODW can consider

approving a reduction in the operator attendance requirement for the waterworks. An Owner may also apply for a variance from the Waterworks Regulations' operator attendance requirements pursuant to 12VAC5-590-140.

VIII. Tracking Temporary Licensed Operator Waivers

ODW will track granted temporary licensed operator waivers. ODW field offices will enter information about granted waivers into a central spreadsheet. CEP will confirm that information in the spreadsheet is accurate. ODW field offices will also enter a note in SDWIS regarding any temporary licensed operator waiver.

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VDH Office of Drinking Water
Waterworks Remote Monitoring Policy

I. Background

The Code of Virginia § 32.1-172.1.B (Code) requires the Virginia Department of Health (VDH) to credit remote monitoring of a classified waterworks facility as satisfying the operator attendance requirement if the system "is equipped with adequate technological capability" and the waterworks owner submits and VDH approves "a remote monitoring plan demonstrating that the waterworks…possesses sufficient technology for the remote operator to adequately monitor the waterworks…and manage onsite operators with a lower license class, mechanics, or other staff to operate the waterworks…under the remote operator's direct supervision."

The Code provides factors that VDH may consider in deciding whether to approve a remote monitoring plan (RMP) for multiple waterworks, including the number of waterworks being simultaneously remotely monitored, whether the multiple waterworks are under common ownership, whether the remote operator is employed by the owner of multiple waterworks, and the frequency of in-person attendance at the waterworks.

The Code allows VDH to stop crediting remote monitoring as attendance if VDH "finds that continued operation pursuant to the [RMP] presents a public health threat due to statutory, regulatory, or permit violations." Additionally, the Code prohibits VDH from crediting remote monitoring as attendance if the operator is operating the waterworks pursuant to a temporary waiver of the licensed operator requirement under § 32.1-172.1.A of the Code.

II. Purpose

This Waterworks Remote Monitoring Policy (Policy) establishes how VDH's Office of Drinking Water (ODW) will receive, review, and approve or deny applications for approval of RMPs pursuant to the Code.

III. Application Intake

A waterworks owner (Owner) that wishes to receive credit for meeting the operator attendance requirements of the Waterworks Regulations through remote monitoring must submit a completed RMP. The Remote Monitoring Plan Application (Application; see attached document) provided by ODW may serve as the RMP. If the Owner chooses not to use the Application, then the RMP submitted by the Owner must include all the information requested in the Application including a certification that is identical to the Application Certification at the end of the Application.

The ODW field office where the waterworks is located will receive the RMP and be responsible for initial review. If an Owner submits an RMP for multiple waterworks and the waterworks are located in the territory of more than one ODW field office, then the field office that is home to the greatest number of the Owner's waterworks will be responsible for intake responsibilities. If the waterworks are evenly distributed among ODW field offices, then the

field office that receives the application will be responsible for intake responsibilities unless decided otherwise between the respective field directors or the ODW Chief of Field Operations.

The field director at the field office charged with intake responsibilities will identify the person in the field office who will be chiefly responsible for review of the RMP. If the RMP is for multiple waterworks and the systems are located in the jurisdictions of more than one field office, then the field director for the field office responsible for intake duties will inform the field director(s) for the other field office(s) that an RMP has been submitted in order to coordinate review among the field offices.

The field director should confer with the Director of the Division of Technical Services (DTS) before finalizing any decision to approve or deny an RMP. DTS is responsible for ensuring that decisions regarding approval of RMPs are consistent.

IV. RMP Review

A. Field Office Responsibility for Review

If ODW determines it needs more information from the applicant, ODW staff may contact the "Contact Person" identified in the application to discuss ODW's request for more information and set a timeframe for the Owner to submit a revised RMP or additional information. If the Owner fails to submit a revised RMP or the additional information within the time period set by the ODW field office, then ODW will evaluate the materials as submitted and approve or deny the RMP.

B. RMP Requirements

For VDH to credit remote monitoring as operator attendance pursuant to the Waterworks Regulations, ODW must have approved an RMP.

An approved RMP must demonstrate that the waterworks has sufficient technology for the remote operator to adequately monitor the waterworks and manage onsite staff who are operating the system under the remote operator's direct supervision. To satisfy this standard, the RMP must not compromise the ability of a waterworks to continue to comply with the waterworks' statutory, regulatory, and permit obligations, including the ability to timely respond to any emergency. Additionally, there is an increasing threat of cyberattacks against waterworks. For ODW to approve an RMP, the plan must demonstrate that the technology employed accounts for cybersecurity concerns and the threats posed to the waterworks' operation and the drinking water supply by bad actors that could prevent the remote operator from adequately monitoring the waterworks or communicating with onsite staff. For ODW to approve an RMP, the RMP must certify that a cybersecurity assessment or reassessment using an ODW-approved method has been performed in the last 12 months and that the waterworks owner commits to having cybersecurity assessments or reassessments performed in the future on at least an annual basis. ODW-approved methods include: (1) a self-assessment using the American Water Works Association's Cybersecurity Risk Management Tool; (2) an assessment through the U.S. Environmental Protection Agency's Water Sector Cybersecurity Evaluation Program; (3) use of

the EPA Water Cybersecurity Assessment Tool; (4) a cybersecurity assessment approved by the Cybersecurity & Infrastructure Security Agency (CISA); (5) a cybersecurity assessment approved by the National Institute of Standards and Technology; or (6) any other method approved by ODW.

ODW's decision to approve or deny an RMP will be a case-by-case determination. An Owner may submit an RMP for ODW's review that includes more than one waterworks. In such a case, the RMP must provide information that is specific to each waterworks covered by the RMP. ODW will approve or deny an RMP covering multiple waterworks as a group, rather than approving or denying it separately for each waterworks in the RMP.

Among the factors ODW must consider in reviewing an RMP are[1]:

- Whether the RMP would cause the waterworks to be in violation of any statutory, regulatory, or permit requirement
- Operational and compliance history*
- Population served*
- Water source(s)*
- Type of treatment*
- Facility capacity*
- Hours of operation, including in-person and remote monitoring
- Proposed in-person attendance by the operator and unlicensed personnel
- Suitability and reliability of remote monitoring controls, alarms, and communications
- Communication plan for waterworks staff in the event of an emergency or a remote monitoring failure
- Availability of emergency power and the operability of remote monitoring systems and communication with onsite staff during a power outage
- Certification by the Owner of the existence of a Cybersecurity Risk Mitigation and Response Plan and emergency response plan
- The circumstances under which the properly licensed operator will report onsite to the waterworks in the event of an incident and the expected response time for the operator to arrive at the waterworks
- Type and reliability of remote monitoring controls, alarms, and communications
- Availability to remote operator of complete piping and instrumentation diagrams for the waterworks, including proposed instrumentation and controls
- Availability to remote operator of documentation about the waterworks' design and operation that the remote operator will have access to when monitoring the waterworks remotely
- How information about the waterworks' operation will be monitored remotely, including:
    - Availability to remote operator of all alarm and setpoint levels for various parameters
    - How the remote monitoring systems will be monitored and staffed

[1] The Owner does not need to provide information for the items marked with an asterisk because ODW has this information.

  - How remote monitoring system data will be recorded and archived
  - How remote monitoring system data will be reviewed and analyzed to identify problems
  - The data streams that will be graphed to help visualize trends
- Process for handling system alarms during periods of remote operation
- Operation and maintenance of the remote monitoring system, including relevant personnel and resources to keep the system monitoring as designed and protecting against disruption
- Capacities of chemical tanks and needed frequency of refilling or replacement
- Compliance with 12VAC5-590-725 of the Waterworks Regulations
- The identity of other waterworks that the remote operator is, or will be, monitoring, including the classification of such systems and the remote operator's schedule for monitoring each system
- Finished water storage to meet system demands and contact time (CT) requirements whenever normal treatment is interrupted
- Physical security of the waterworks if it is relevant in reviewing the RMP
- Other criteria as ODW determines are necessary

While ODW must consider the above-listed items in determining whether to approve an RMP, ODW also must consider the entire RMP and any relevant ODW records concerning the waterworks.

V. Notification to Owner of Review Decision

The field director for the relevant ODW field office sends a letter notifying the waterworks owner of ODW's approval or denial of the Owner's RMP. Template letters for an approved RMP and a denied RMP are attached.

VI. Authority to Cease Crediting Remote Monitoring

If ODW identifies any violation of statute, regulation, or permit condition while an approved RMP is in effect, ODW must examine the violation to determine whether continuing to grant remote monitoring attendance credit presents a public health threat. This analysis should focus on whether the properly licensed operator being remote to the waterworks, rather than physically present at the waterworks, likely caused or contributed to the violation.

VII. Right to an Administrative Hearing

If ODW denies an RMP or stops providing credit for remote monitoring in relation to an approved RMP, the Owner has a right to an administrative proceeding pursuant to the Administrative Process Act and the Waterworks Regulations.

Remote Monitoring Application

VIRGINIA DEPARTMENT OF HEALTH (VDH)
OFFICE OF DRINKING WATER (ODW)

Return Application to the Appropriate Office of Drinking Water Field Office
Go to www.vdh.virginia.gov/drinking-water/contact-us/ for Field Office contact information

See ODW's Waterworks Remote Monitoring Policy for more information about ODW's review of Remote Monitoring Plans

WATERWORKS INFORMATION (if submitting a Remote Monitoring Plan for more than one waterworks, provide responsive information for every waterworks subject to the Plan)

1. PWSID Number: Click or tap here to enter text. System Name: Click or tap here to enter text.

2. Location (City/County): Click or tap here to enter text.

3. Owner of Waterworks:
   Name: Click or tap here to enter text.
   Address: Click or tap here to enter text.
   Town/City: Click or tap here to enter text.
   State/Zip: Click or tap here to enter text.

   Contact Person: Click or tap here to enter text.
   Telephone Number: Click or tap here to enter text. Alternate Number: Click or tap here to enter text.
   E-mail Address: Click or tap here to enter text.

4. Preferred Contact Info
   Contact Person: Click or tap here to enter text.
   Name/Title
   Telephone Number: Click or tap here to enter text. Alternate Number: Click or tap here to enter text.
   E-mail Address: Click or tap here to enter text. Alternate E-mail Address: Click or tap here to enter text.
   FAX Number: Click or tap here to enter text.

5. Hours of waterworks operation (specify if it varies by day): Click or tap here to enter text.

Answers to the following questions may be provided below and serve as the submitted Remote Monitoring Plan or through a separate document. If this application is for more than one waterworks, provide responsive information for each waterworks.

6. Describe the scope of the proposed remote monitoring. For example, what functions of the waterworks

will the remote operator be able to monitor directly? What functions of the waterworks will the remote operator be unable to monitor directly? Will the remote operator have access to live video of operations and, if so, what portions of the waterworks will be shown via live video? For those functions that the remote operator will be unable to monitor directly, who will monitor those functions, how will they monitor them, and how will the remote operator be informed of the on-site monitoring? Click or tap here to enter text.

7. Identify the operator class of all personnel who are proposed to serve as remote operators at the waterworks, including whether the operator is an employee of the owner of the waterworks or an independent contractor. Click or tap here to enter text.

8. Identify the days/hours: (1) when the waterworks will satisfy the operator attendance requirement through remote monitoring by a properly licensed operator, and (2) when the waterworks will satisfy the operator attendance requirement through on-site attendance by a properly licensed operator. A "properly licensed operator" is a licensed waterworks operator who holds a license that is of the same class, or a higher class, as the waterworks. Click or tap here to enter text.

9. Identify any properly licensed operators who will be able to respond to the waterworks in-person, if necessary, during periods of remote operation. Click or tap here to enter text.

10. Identify waterworks staff positions that will be on-site during periods of remote operation and their duties and responsibilities when the properly licensed operator is operating the waterworks remotely. Click or tap here to enter text.

11. Will the remote operator be remotely monitoring any other waterworks during days when the remote operator is monitoring the waterworks under this Application? If so, identify the other waterworks, including its classification, and identify the remote operator's schedule for monitoring each waterworks. Click or tap here to enter text.

12. Will the remote operator have access to all standard operating procedures, design documents, guides, manuals, or other documentation that an operator who is on-site at the waterworks would normally rely upon during the course of their duties? If not, what documents will the remote operator be unable to access? How will the remote operator have access to these documents? Will the remote operator have access to these documents during any period of power loss at the waterworks or at the remote operator's location? Click or tap here to enter text.

13. Identify all critical features in the pumping and treatment facilities that will be remotely monitored, have alarms, and can be operated automatically or remotely. Include a description of automatic plant shutdown controls with alarms and conditions that would trigger shutdowns, including the use of any dual or secondary alarms for critical functions. Click or tap here to enter text.

14. Describe the following regarding remote monitoring controls, alarms, and communications in place at the waterworks:

    a. Availability to the remote operator of all alarm and setpoint levels for relevant parameters Click or tap here to enter text.
    b. Availability to the remote operator of piping and instrumentation diagrams including proposed

instruction and controls Click or tap here to enter text.

c. How the remote monitoring systems will be monitored and staff assigned to monitor alarms Click or tap here to enter text.
d. How the remote monitoring system data will be recorded and archived Click or tap here to enter text.
e. How the remote monitoring system data will be reviewed and analyzed to identify problems Click or tap here to enter text.
f. Which data streams will be graphed to help visualize trends Click or tap here to enter text.
g. Other relevant controls, alarms, or communications not covered above Click or tap here to enter text.

15. Describe the communication plan for waterworks staff in the event remote monitoring capabilities are not working, alarms become triggered, or there is an emergency or other urgent matter impacting the waterworks' operation, including the water supply. In responding, identify who will be notified of such an incident and their location, actions triggered, back-up power and communication resources, the number of operators available for system monitoring, and the circumstances when the properly licensed operator will report to the waterworks in-person to respond to an incident and the expected response time to do so. Click or tap here to enter text.

16. Cybersecurity Assessment and Cybersecurity Risk Mitigation and Response Plan (ODW is not seeking any information that if shared could potentially compromise the security of the waterworks. If the Applicant would rather provide a response through a conversation with ODW staff, please state that below.)

    a. Has a cybersecurity assessment or reassessment of the planned remote operation of the waterworks been conducted in the last 12 months? If yes, identify the method by which the assessment or reassessment was performed. If no, when, and by what method, will such an assessment be performed? (More information on cybersecurity issues related to waterworks, including information about cybersecurity assessments, can be found on the ODW website: www.vdh.virginia.gov/drinking-water/waterworks-cybersecurity/.) Click or tap here to enter text.
    b. Have the results of the cybersecurity assessment or reassessment been reviewed and a written strategy created to address the findings? Click or tap here to enter text.
    c. Will cybersecurity needs and vulnerabilities be reassessed at least annually and the Cybersecurity Risk Mitigation and Response Plan updated accordingly? Click or tap here to enter text.
    d. What practices and procedures are in place to ensure that cybersecurity is maintained on an ongoing basis? Click or tap here to enter text.
    e. Has a Cybersecurity Risk Mitigation and Response Plan been developed specific to remote monitoring? If not, when will it be developed? Click or tap here to enter text.
    f. Has a Cybersecurity Risk Mitigation and Response Plan been implemented? If not, when will it be implemented? Click or tap here to enter text.

17. Describe the processes and procedures that are in place to ensure that the waterworks complies with 12VAC5-590-725 of the Waterworks Regulations. Click or tap here to enter text.

18. Has the waterworks' emergency management plan been updated to reflect remote monitoring by a properly licensed operator? If not, when will the emergency management plan be updated? Click or tap here to enter text.

19. Describe instrument calibration processes and schedules that have been implemented to ensure accurate data is provided to the remote operator. Click or tap here to enter text.

20. Describe the maintenance schedule for the remote monitoring system, including the personnel and resources to keep the system monitoring as designed and protecting against disruption. Click or tap here to enter text.

21. Describe the schedule and process for testing remote monitoring equipment, including related to testing alarms and shutdowns, to confirm that it is working as designed. Click or tap here to enter text.

22. What are the capacities of treatment chemical tanks at the waterworks and the needed frequency of refilling? How will the level of treatment chemical tanks be remotely monitored, and how will treatment chemical tanks be refilled during periods of remote operation? Click or tap here to enter text.

23. Describe the procedures in place to ensure that finished water storage will meet system demands and contact time requirements when normal treatment is interrupted during a period of remote operation. Click or tap here to enter text.

24. Describe any emergency power provided at the treatment plant and at the remote monitoring location.

    a. Will the remote monitoring equipment be operable during a power outage at either the waterworks or where the remote operator is located? Click or tap here to enter text.
    b. Will a power outage at either the waterworks or the remote monitoring location prevent the remote operator from observing the waterworks' operations or impact communication between the remote operator and on-site staff? Explain how a power outage will or will not impact remote operations. Click or tap here to enter text.
    c. Is the equipment provided with Uninterruptable Power Supplies? Can the emergency power system power the entire waterworks? If not, what equipment will be offline when the waterworks is running on emergency power? What functions, operations, or information regarding the waterworks will the remote operator be unable to monitor when the waterworks is operating on emergency power? Click or tap here to enter text.

25. Is there anything else that ODW needs to know about the proposed remote monitoring plan in order to decide whether to approve the Application? Click or tap here to enter text.

Based on the responses to the above questions, ODW may contact the preferred contact identified above to ask questions about the remote monitoring plan and gain additional information.

Submission of incomplete information in this application may delay ODW in deciding whether to approve the Application or may result in ODW denying the Application request.

APPLICATION CERTIFICATION

The Owner, or the undersigned representative of the Owner, certifies that they are a responsible official authorized to submit this Application on behalf of the Owner.

The Owner, or undersigned representative of the Owner, certifies that the information contained herein and any documents provided in support of this Application are true, correct, and complete to the best of their knowledge and belief.

The Owner agrees to clarify or supplement information pertaining to this application upon request by the Office of Drinking Water. The Owner recognizes that the information contained herein may be subject to the Virginia Freedom of Information Act.

The Owner agrees that if the Remote Monitoring Plan Application is approved by the Virginia Department of Health, the Owner will ensure that the approved Remote Monitoring Plan is followed. The Owner agrees that if modifications are needed to the Remote Monitoring Plan, the Owner will notify the Virginia Department of Health and seek approval for any proposed modifications in order to continue to receive credit for operator attendance by remote monitoring.

Owner or Representative of the Owner:

NAME: Click or tap here to enter text.

TITLE: Click or tap here to enter text.

SIGNATURE: _____ DATE: Click or tap to enter a date.

VDH VIRGINIA DEPARTMENT OF HEALTH

Office of Drinking Water

Hurricane Helene Response

9/27/24 through 10/18/24

Overview of Helene Response

Staffing the VEOC 24 hours a day with ESF #3 (Public Works and Engineering) began 9/27/24.

Coordination with many state partners including DEQ and DCR

Coordination within VDH due to the large scope of damage within the whole SW

Initially reports of damage were limited due to various factors including ODW staff living in the affected area, poor cell service, internet outages, and flooding.

When the flooding receded, there were various emergencies including

Debris in South Holston Lake (petroleum sheen), Washington County having 6 miles of water line damaged or destroyed, increased turbidity (an extreme increase) in the New River

By the Numbers

40 BWA across

14 localities

Span from simple power outages that were quickly resolved (2-3 days) to complete loss of services for a week+, to BWA for 10-12 days

150,000+ people affected by water emergencies during Helene

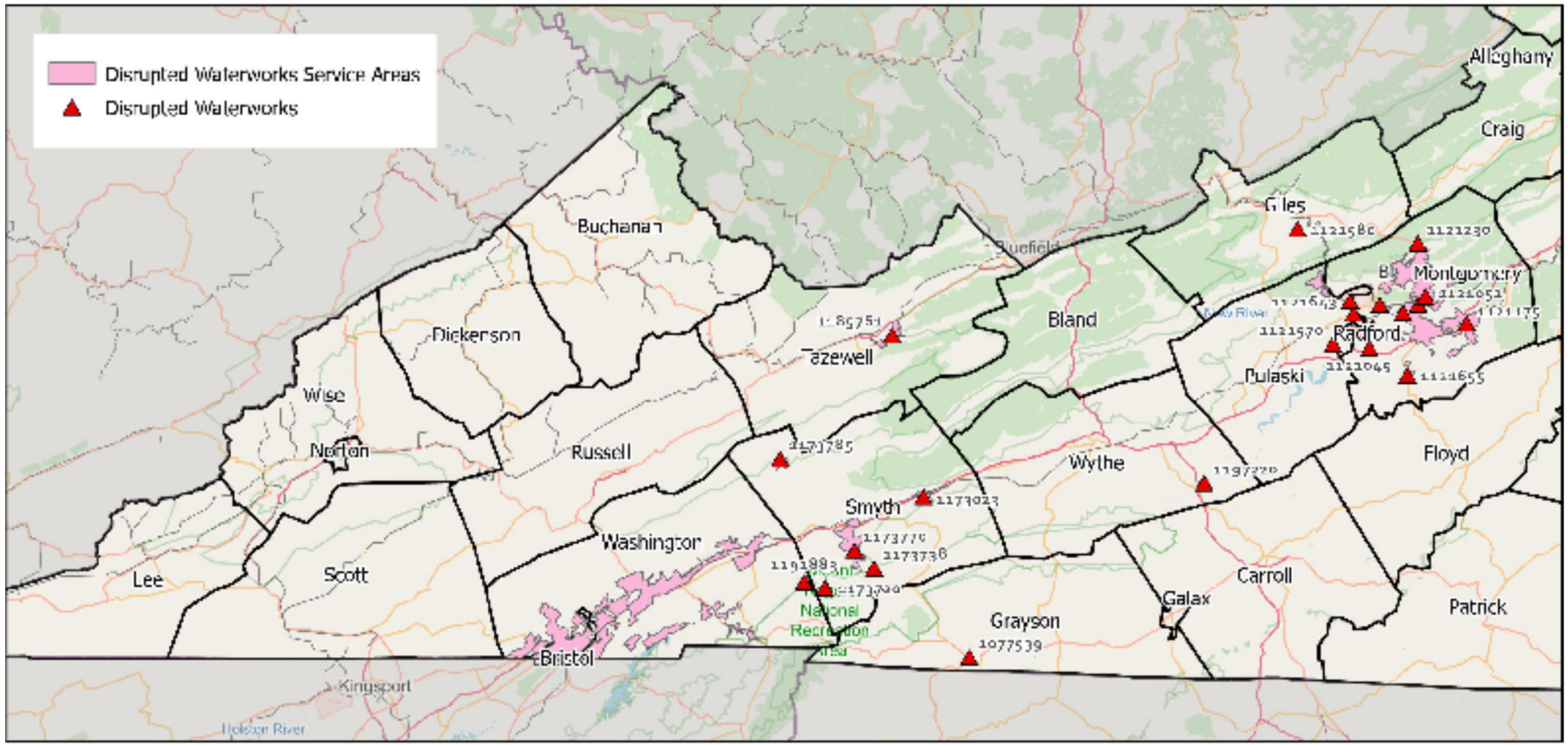
11 ODW staff responded for a total of approx. 1,178 hours

Significant coordination, response, technical assistance, information sharing, etc.

3 systems had major issues that required significant coordination

South Holston Lake debris, Washington Co. in Damascus/Taylors Valley, Montgomery County extended BWA.

Map


Disrupted Waterworks Service Areas
Disrupted Waterworks
Buchanan
Dickerson
Wise
Norton
Russell
Lee
Scott
Washington
Bristol
Kingsport
Tazewell
Bland
Wythe
Smyth
Grayson
Giles
Montgomery
Radford
Pulaski
Floyd
Carroll
Galax
Patrick
Craig
Alleghany

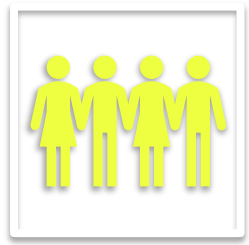
A Few Pictures (drone footage)

Successes

Public Health was at the forefront of the VDH response and was maintained throughout all programs/divisions

VDH held separate VDH only coordination calls which enabled us as an agency to have a common operating picture

VDH was able to staff two ESFs when needed and OEP worked seamlessly with ODW



ODW was onsite with staff living in the community and knew the challenges and the resiliency that SW Virginia had

And Challenges

Limited ODW bench depth for responding to large scale emergencies that extend multiple weeks

ODW staff living in the affected area with limited capacity to bring in other staff or hotel options

Widespread damage, but various issues across the SW. No one locality had the same water issues

Burnout within ODW from previous responses with limited staff

Concerns that VDH Leadership did not understand role of ODW in the VEOC/VEST during large scale emergencies

Unknown capacity to bring in other emergency coordinators throughout VDH to help with staffing

After a very busy year…

ODW is working to improve various processes, including emergency services

ODW is working to improve bench depth for emergency staffing

- Emergency Planner being hired in the new year

ODW is working to improve relationships with waterworks before, during and after an emergency

- Capacity and Capability survey before, during and throughout a widespread emergency to better gauge ability to handle an emergency

ODW is working with VDH OEP, OEHS, DEQ and others on the Community Based Emergency Response Series (CBERS) to provide more information on roles and responsibilities at the local level in the spring of 2025

ODW is co-hosting with EPA a Power Resiliency Workshop for waterworks and localities in January 2025

And so much more!

VDH VIRGINIA DEPARTMENT OF HEALTH

QUESTIONS??

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Lead and Copper Rule Revisions
Lead and Copper Rule Improvements
Looking Back and Forward

Robert D. Edelman, PE

Director, Division of Technical Services

Office of Drinking Water

Safe Drinking Water for a Healthy Virginia

VDH VIRGINIA DEPARTMENT OF HEALTH

Protecting You and Your Environment

Initial Service Line Inventory – Due October 16, 2024

1,569	Total active community and NTNC waterworks
1,360	Waterworks submitted Initial Service Line Inventories
209	Waterworks without Initial Service Line Inventories
28	Waterworks with lead service lines
3,654	Lead service lines
143	Waterworks with galvanized requiring replacement service lines
9,777	Galvanized requiring replacement service lines
1,657,262	Non-lead service lines
704,939	Unknown material service lines
2,375,632	Total service lines inventoried

Data pulled 11/25/24

Initial Service Line Inventory – Due October 16, 2024

VDH ODW is actively reviewing initial service line inventory submittals

1,360	Waterworks submitted Initial Service Line Inventories
1,038	Inventories are Accepted
32	Inventories have status of Rejected
290	Inventories are not processed

VDH ODW is sharing inventory status information with EPA Region 3.

EPA Region 3 will undertake enforcement while VDH does not have primacy.

Effective on October 16, 2024

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

LCRR items that were deferred to LCRI Effective 11/1/2027

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

Notification of Known or Potential Service Line Containing Lead

40 CFR 141.85(e)

Notification of known or potential service line containing lead:

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

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

New business processes:

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

Health Effects Language

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

- Required language for no LSL and Lead Status Unknown SLs
- Do not modify this language

Health effects of lead.

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

Tier 1 Public Notice – Following a Lead Action Level Exceedance

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

Effective: October 16, 2024

Applicable to: All community and non-transient noncommunity waterworks

Template: Links to ODW and EPA Templates on LCRR Guidance Webpage

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

- Consult with the ODW field office as soon as practical to notify them of the ALE and determine if there are any additional PN requirements (e.g., content, repeat notices, and/or posting).
- Issue the PN to customers within 24 hours after you learn of the lead ALE even if you are unable to contact ODW.

Recommendation:
Obtain the Public Notice template and establish a plan for completing a Tier 1 Public Notice with each round of LCR Tap samples, in advance of determining the lead 90th percentile.

Tier 1 Public Notice – Following a Lead Action Level Exceedance

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

Deliver to: all persons served by the waterworks

Delivery Method: One or more of the following:

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

Tier 1 Public Notification Reporting

40 CFR 141.201 (c)(3)

Effective: October 16, 2024

Applicable to: All community and non-transient noncommunity waterworks

Template: Public Notice template on LCRR Guidance Webpage

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

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

Tier 1 Public Notification Reporting Requirements

40 CFR 141.31

Effective: October 16, 2024

Applicable to: All community and non-transient noncommunity waterworks

Template: Certification Statement on LCRR Guidance Webpage

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

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

Consumer Confidence Reports

40 CFR 141.153 (d)(4) Detected contaminants

Applicable to: Community Waterworks

Effective: October 16, 2024

Applies to: Consumer Confidence Report issued in 2025 and beyond

Reworded

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

NEW

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

2027

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

Consumer Confidence Reports

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

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

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

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

1. Continue work on service line inventories:
   - Identify unknowns
   - Continue gathering SL material information during normal operations
   - Identify lead connectors
   - Prepare baseline service line inventory – due 11/1/2027
2. Prepare your Replacement Plan if you have LSLs, GRR or Unknowns
3. If you have Lead Service Lines and/or GRR
   - Reach out to the DWSRF - Apply for funding – available now!
   - Talk to your customers
   - Make replacements of known LSLs – before 11/1/2027

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

4. Prepare for lead sampling in schools and child care centers:
   - Prepare list of schools and child care centers in service area.
   - Identify excluded schools (Constructed on or after 1/1/2024)
   - Identify waived schools (already tested)
   - Prepare public outreach materials, begin outreach
5. Corrosion Control Treatment:
   - Prepare for lead action level of 10 µg/L
   - Review CCT performance against operational goals
   - Review past lead and copper tap sample results
6. Tap Sampling
   - Prepare tap sample pool based on new tiers
   - Prepare for standard monitoring if LSLs and/or GRR present
   - Prepare to offer to sample the tap if any for customer with a LSL, GRR or unknown service line requests it

Lead Elimination Assistance Program (LEAP) – Revamped LSLR Program

- BIL LSL funds are available for LSL Replacement
- Lead Service Line (LSL) replacement must be a complete replacement (public and private side of the service line)

QUESTIONS?

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Waterworks Advisory Committee
PFAS Update

December 10, 2024
Bailey Davis
Chief of Field Operations

Office of Drinking Water
Safe Drinking Water for a Healthy Virginia

PFAS National Primary Drinking Water Regulation Implementation: Timeframes for Water Systems

To be completed by April 26, 2027:

- Initial monitoring

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

- Include results of initial monitoring in Consumer Confidence Reports (i.e., Annual Water Quality Report)
- Begin compliance monitoring
- Include results of compliance monitoring in Consumer Confidence Reports
- Complete public notification for monitoring and testing violations

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

- Comply with all MCLs
- Complete public notification for MCL violations

Initial Monitoring – Due by April 26, 2027

Surface Water Systems
serving all population sizes

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

Groundwater Systems
serving > 10,000 customers

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

Groundwater Systems
serving ≤ 10,000 customers

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

EPA guidance on previously collected data
EPA Memorandum dated November 21, 2024

Initial Monitoring Requirements

- Collected later than January 1, 2019
- Analyzed by EPA Methods 533 or 537.1 with no modifications
- Part of UCMR 5, state-level, or other appropriate monitoring effort
- Data from different calendar years can be used as long as the number of samples and timing requirements are satisfied
- Results with obvious sampling errors (such as PFAS detection in Field reagent blanks) can be deleted and replaced with a new collection as long as timing requirements are satisfied
- Samples collected after June 24, 2024 must be from an EPA or Virginia certified laboratory

EPA guidance on previously collected data
Memorandum received November 21, 2024

Compliance Monitoring Frequency Determination

- Results of initial monitoring will determine compliance monitoring frequency
- To be eligible for reduced triennial monitoring at an entry point all regulated PFAS monitoring results must be below trigger levels

Contaminant	MCL (ppt or ng/L)	Trigger Level (1/2 of MCL) (ppt or ng/L)	PQL (based on UCMR 5 MRL) (ppt or ng/L)
PFOA	4.0	2.0	4.0
PFOS	4.0	2.0	4.0
HFPO-DA	10	5	5.0
PFHxS	10	5	3.0
PFNA	10	5	4.0
PFBS	N/A	N/A	3.0
Hazard Index (mixtures of PFHxS, PFNA, HFPO-DA, and PFBS)	1 (unitless)	0.5 (unitless)	N/A

EPA guidance on previously collected data
Memorandum received November 21, 2024

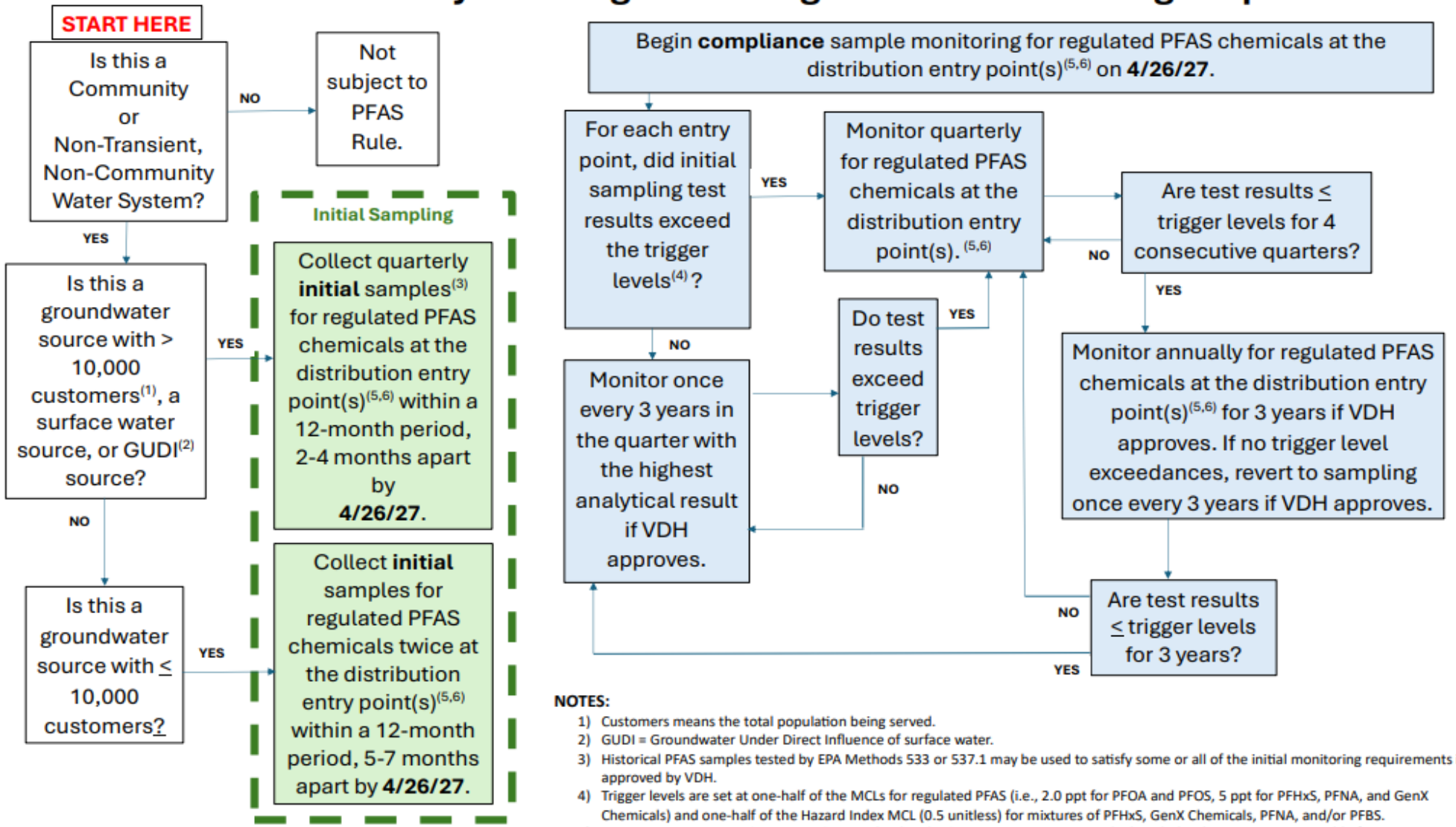
UCMR 5 monitoring data

- UCMR laboratories only report values at or above UCMR 5 MRLs to the EPA
- EPA working with EPA-contracted laboratories to reprocess data for small systems (10,000 or fewer customers)
- Large systems will need to work with laboratories to reprocess data for use for initial monitoring

Data reporting

- ODW encourages waterworks to produce a plan to meet initial monitoring requirements that will allow for repeat data collection if necessary
- ODW will be posting information on submission of initial monitoring data in early 2025.

PFAS National Primary Drinking Water Regulation – Monitoring Requirements



NOTES:

1) Customers means the total population being served.
2) GUDI = Groundwater Under Direct Influence of surface water.
3) Historical PFAS samples tested by EPA Methods 533 or 537.1 may be used to satisfy some or all of the initial monitoring requirements if approved by VDH.
4) Trigger levels are set at one-half of the MCLs for regulated PFAS (i.e., 2.0 ppt for PFOA and PFOS, 5 ppt for PFHxS, PFNA, and GenX Chemicals) and one-half of the Hazard Index MCL (0.5 unitless) for mixtures of PFHxS, GenX Chemicals, PFNA, and/or PFBS.
5) Monitoring at consecutive connections to the distribution system is not required. The wholesale system is responsible for entry point monitoring.
6) Entry points with a blend of groundwater and surface water shall be monitored as a surface water source.

Issued 10-21-24

Compliance, Enforcement & Policy Update

December 10, 2024

Grant E. Kronenberg
ODW Director of Division of
Compliance, Enforcement & Policy

Compliance, Enforcement & Policy Update

- The October Enforcement Targeting Tool (ETT) report – 5 “serious violators” under EPA’s scoring system. Down from 11 in the July ETT report.
- Three of the serious violators have returned to compliance with respect to all violations.
- One serious violator has returned to compliance but for one remaining outstanding violation.
- One serious violator is the subject of a proposed Consent Order.

Compliance, Enforcement & Policy Update

- 12 Warning Letters sent from the October ETT report. The same number as were sent from the prior quarter.
- Eight consent orders entered into so far this year.
- One Special Order issued by the Commissioner due to operation without a permit.