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Notice of Intended Regulatory Action (NOIRA) Agency Background Document

Agency name	Virginia Department of Health
Virginia Administrative Code (VAC) Chapter citation(s)	12 VAC 5-590
VAC Chapter title(s)	<i>Waterworks Regulations</i>
Action title	Amend and update the <i>Waterworks Regulations</i>
Date this document prepared	December 1, 2021

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Order 14 (as amended, July 16, 2018), the Regulations for Filing and Publishing Agency Regulations (1VAC7-10), and the *Form and Style Requirements for the Virginia Register of Regulations and Virginia Administrative Code*.

Brief Summary

Provide a brief summary (preferably no more than 2 or 3 paragraphs) of the subject matter, intent, and goals of this regulatory change (i.e., new regulation, amendments to an existing regulation, or repeal of an existing regulation).

Historically, the State Board of Health (the "Board") has relied on the U.S. Environmental Protection Agency (EPA), under its authority in the Safe Drinking Water Act (SDWA), 42 U.S. Code § 300f et seq., to establish regulatory limits for contaminants in drinking water. However, in 2020, the General Assembly passed legislation, Acts of Assembly ("Acts") Chapter 1097, requiring the Board to adopt regulations establishing maximum contaminant levels (MCLs) for perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), chromium-6, 1,4-dioxane, and "such other perfluoroalkyl and polyfluoroalkyl substances [(PFAS)] as the Board deems necessary." The General Assembly also passed legislation in 2020 requiring the Virginia Department of Health (the "Department") to study the occurrence of six (6) specific PFAS, and other PFAS as deemed necessary, in the Commonwealth's public drinking water (Acts Chapter 611). The results of the study were intended to inform the Board's rulemaking under *Code of Virginia* § 32.1-169, as amended by Acts Chapter 1097.

With this regulatory action, the Board intends to amend the *Waterworks Regulations*, 12VAC5-590, to comply with the amendments to *Code of Virginia* § 32.1-169 B, which became effective on January 1,

2022. The Board’s intent is to review the occurrence and public health implications of PFOA, PFOS, chromium-6 and 1,4-dioxane in public drinking water in Virginia and to establish MCLs for each of the contaminants. The Board may adopt MCLs for other PFAS, as deemed necessary, based on the results of the occurrence study completed in 2021 pursuant to Acts Chapter 611 and other occurrences of PFAS in drinking water that result in a public health risk which can be addressed through regulatory action.

The amendments to the *Waterworks Regulations* will include the specified MCLs and establish procedures for waterworks to monitor for the contaminants, report analytical results, treat or respond to levels that exceed the specified limits, and satisfy other requirements as needed for monitoring, reporting, recordkeeping, treatment, and public notice.

Acronyms and Definitions

Define all acronyms or technical definitions used in this form.

- “Acts” means Acts of Assembly.
- “Board” means the State Board of Health.
- “C.F.R.” means the Code of Federal Regulations.
- “Department” means the Virginia Department of Health.
- “EPA” means the U.S. Environmental Protection Agency.
- “MCL” means maximum contaminant level. The MCL is the maximum permissible level of a contaminant in potable water that is delivered to any consumer of a waterworks.
- “ODW” means the Office of Drinking Water, an operational unit in the Virginia Department of Health.
- “PFAS” means per- and polyfluoroalkyl substances; a family of more than 4000 chemicals.
- “PFOA” means perfluorooctanoic acid.
- “PFOS” means perfluorooctane sulfonate.
- “Waterworks” means a system that serves piped water for human consumption to at least 15 service connections or 25 or more individuals for at least 60 days out of the year. “Waterworks” includes all structures, equipment, and appurtenances used in the storage, collection, purification, treatment, and distribution of pure water except the piping and fixtures inside the building where such water is delivered.
- “SDWA” means the Safe Drinking Water Act.

Mandate and Impetus

Identify the mandate for this regulatory change and any other impetus that specifically prompted its initiation (e.g., new or modified mandate, petition for rulemaking, periodic review, or board decision). For purposes of executive branch review, “mandate” has the same meaning as defined in Executive Order 14 (as amended, July 16, 2018), “a directive from the General Assembly, the federal government, or a court that requires that a regulation be promulgated, amended, or repealed in whole or part.”

This regulatory action under the standard rulemaking process is based on amendments to *Code of Virginia* § 32.1-169 that became effective on January 1, 2022. (Acts Chapter 1097 (2020).) *Code of Virginia* § 32.1-169 B. directs the Board to “adopt regulations establishing maximum contaminant levels (MCLs) in all water supplies and waterworks in the Commonwealth for (i) perfluorooctanoic acid and perfluorooctane sulfonate, and for such other perfluoroalkyl and polyfluoroalkyl substances as the Board deems necessary; (ii) chromium-6; and (iii) 1,4-dioxane.”

Legal Basis

Identify (1) the promulgating agency, and (2) the state and/or federal legal authority for the regulatory change, including the most relevant citations to the Code of Virginia and Acts of Assembly chapter number(s), if applicable. Your citation must include a specific provision, if any, authorizing the promulgating agency to regulate this specific subject or program, as well as a reference to the agency's overall regulatory authority.

The Virginia *Waterworks Regulations*, 12VAC5-590, are mandated by Article 2, Chapter 6, Title 32.1 of the *Code of Virginia* titled "Public Water Supplies" (§ 32.1-167 *et seq.*), which empowers and directs the Board to adopt and promulgate regulations governing waterworks, water supplies and pure water to protect the public health and promote the public welfare.

Code of Virginia § 32.1-167 defines a "waterworks" as "a system that serves piped water for human consumption to at least 15 service connections or 25 or more individuals for at least 60 days out of the year. 'Waterworks' includes all structures, equipment, and appurtenances used in the storage, collection, purification, treatment, and distribution of pure water except the piping and fixtures inside the building where such water is delivered."

Code of Virginia § 32.1-169 A. provides that the Board (acting through the Department, see *Code of Virginia* § 32.1-16) "shall have general supervision and control over all water supplies and waterworks in the Commonwealth insofar as the bacteriological, chemical, radiological, and physical quality of waters furnished for human consumption may affect the public health and welfare and may require that all water supplies be pure water."

Code of Virginia § 32.1-169 B. directs the Board (acting through the Department, see *Code of Virginia* § 32.1-16) to "adopt regulations establishing maximum contaminant levels (MCLs) in all water supplies and waterworks in the Commonwealth for (i) perfluorooctanoic acid and perfluorooctane sulfonate, and for such other perfluoroalkyl and polyfluoroalkyl substances as the Board deems necessary; (ii) chromium-6; and (iii) 1,4-dioxane."

Code of Virginia § 32.1-170 A. allows the Board's regulations for waterworks to include, without limitation, "[r]equirements for inspections, examinations, and testing of raw or finished water; ... [a] requirement that owners submit (i) regular samples of water for bacteriological, chemical, radiological, physical, or other tests or (ii) the results of such tests from such laboratory as may be acceptable to the Commissioner ... [and] [r]equirements for record keeping and reporting[.]"

The National Primary Drinking Water Regulations, at 40 C.F.R. § 142.10 (a), require a State that has primary enforcement responsibility for public water systems (i.e., waterworks) in the State to adopt "drinking water regulations which are no less stringent than the national primary drinking water regulations (NPDWRs) in effect under part 141 of this chapter[.]" The Department has been the primacy agency for the federal law and regulations in Virginia since 1977.

Purpose

Describe the specific reasons why the agency has determined that this regulation is essential to protect the health, safety, or welfare of citizens. In addition, explain any potential issues that may need to be addressed as the regulation is developed.

The intent of the regulatory action is to amend and update the *Waterworks Regulations*, 12VAC5-590-10 *et seq.*, to establish MCLs for PFOA, PFOS, chromium-6, and 1,4-dioxane in drinking water that are protective of public health, including of vulnerable subpopulations, including pregnant and nursing

mothers, infants, children, and the elderly. The limits for PFOA, PFOS, chromium-6, and 1,4-dioxane will not exceed any MCL or health advisory for the same contaminant adopted by the EPA. See *Code of Virginia* § 32.1-169 B.

In establishing such MCLs, the Board will review MCLs adopted by other states, studies and scientific evidence reviewed by such states, material in the Agency for Toxic Substances and Disease Registry of the U.S. Department of Health, and current peer-reviewed scientific studies produced independently or by government agencies. See *Code of Virginia* § 32.1-169 B.

The EPA is going through its own rulemaking process to establish regulatory limits for PFOA and PFOS in drinking water. On October 18, 2021, EPA Administrator Michael S. Regan announced the agency's *PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024*, laying out a whole-of-agency approach to addressing PFAS. The roadmap sets timelines by which EPA plans to take specific actions and commits it to new policies to safeguard public health, protect the environment, and hold polluters accountable. The actions described in the roadmap each represent steps EPA plans to take to safeguard communities from PFAS contamination.

With respect to drinking water, the *PFAS Strategic Roadmap* calls for EPA to do the following:

1. Undertake nationwide monitoring for PFAS in drinking water under the upcoming Fifth Unregulated Contaminant Monitoring Rule, significantly expanding the number of waterworks participating in the program, pending sufficient appropriations by Congress; and
2. Establish a national primary drinking water regulation for PFOA and PFOS that would set enforceable limits and require monitoring of public water supplies, while evaluating additional PFAS and groups of PFAS (proposed rule fall 2022, final rule fall 2023).

The General Assembly passed the amendments to *Code of Virginia* § 32.1-169 in the 2020 Session, prior to EPA committing to establish limits for PFOA and PFOS by 2023. Given the uncertainty at the time, the legislature required the Board and Department to take steps to determine the occurrence of PFAS in the Commonwealth's public drinking water and to protect waterworks' consumers from the specified contaminants. The Department completed the occurrence study required by Acts Chapter 611 in October 2021 and submitted its findings to the General Assembly in December 2021. Based on the Department's findings, the Board is proceeding to establish MCLs for PFOA, PFOS, chromium-6, and 1,4-dioxane.

As more results of PFAS sampling in public drinking water become available, the Board may consider other PFAS for regulation under the *Waterworks Regulations*. However, the PFAS Workgroup, established to assist the Department with the occurrence study required by Acts Chapter 611, did not recommend MCLs for any PFAS or that the Board adopt MCLs for any PFAS, except PFOA and PFOS, based on the results of the study and the scientific and toxicological data on PFAS available at the time.

Substance

Briefly identify and explain the new substantive provisions that are being considered, the substantive changes to existing sections that are being considered, or both.

Substantive amendments and new substantive provisions to the regulation will include:

1. Amending 12VAC5-590-10, Definitions and units of measurement, as needed to define terms used in the chapter.
2. Amending 12VAC5-590-340, Compliance standards, to add MCLs for PFOA, PFOS, chromium-6, 1,4-dioxane, and other PFAS, as deemed necessary.
3. Amending 12VAC5-590-372, Inorganic chemicals monitoring, to add monitoring requirements for chromium-6.

4. Amending 12VAC5-590-373, Organic chemicals monitoring, to add monitoring requirements for 1,4-dioxane.
5. Amending 12VAC-590-373, or adding a new section, to specify monitoring requirements for PFOA, PFOS, and other PFAS as deemed necessary.
6. Adding or amending other sections in Part II of the *Waterworks Regulations* to establish and implement MCLs for PFOA, PFOS, 1,4-dioxane, chromium-6, and other PFAS as deemed necessary. These may include specifying requirements to determine compliance, treat (if monitoring results indicate their presence above a specified level and/or noncompliance with an MCL), analyze for (12VAC5-590-440), report (12VAC5-590-530 and 12VAC5-590-531), provide public notice and information (12VAC5-590-540, 12VAC5-590-545, and 12VAC5-590-546), and maintain records (12VAC5-590-550) for the specified contaminants.
7. Make other amendments as necessary to consider equity and environmental justice issues as they relate to protection of human health from the specified contaminants.

Alternatives to Regulation

Describe any viable alternatives to the regulatory change that were considered, and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the regulatory change. Also, include discussion of less intrusive or less costly alternatives for small businesses, as defined in § 2.2-4007.1 of the Code of Virginia, of achieving the purpose of the regulatory change.

PFOA and PFOS

On October 18, 2021, EPA Administrator Michael S. Regan announced the agency's PFAS Strategic Roadmap – laying out a whole-of-agency approach to addressing PFAS. The roadmap sets timelines by which EPA plans to take specific actions and commits to bolder new policies to safeguard public health, protect the environment, and hold polluters accountable. One key action in the roadmap is to establish a national primary drinking water regulation for PFOA and PFOS that would set enforceable limits and require monitoring of public water supplies, while evaluating additional PFAS and groups of PFAS. EPA intends to complete the proposed rule in the fall of 2022, and to complete the final rule in the fall of 2023.

As a primacy state, Virginia will have to adopt water quality standards for PFOA and PFOS that are no less stringent than EPA's. If the Board does not complete the standard rulemaking process or does not establish MCLs for PFOA and PFOS, once EPA adopts water quality standards, to maintain primacy, the Board will have to adopt MCLs that are no less stringent than EPA's. As a primacy state, Virginia will have two (2) years to adopt standards for PFOA and PFOS. See 40 C.F.R. § 142.12 (b). However, the Board will be exempt from the rulemaking requirements in the Administrative Process Act. See *Code of Virginia* § 2.2-4006 A 4 c.

If the Board does establish MCLs for PFOA and PFOS under this rulemaking and those limits are not as stringent as EPA's, then the Board will have to amend the *Waterworks Regulations* to at least meet EPA's standards.

Chromium-6

EPA's drinking water standard for total chromium is 0.1 milligram per liter (mg/L, which is equivalent to 100 parts per billion (ppb)) and includes all forms of chromium, including chromium-3 and chromium-6. The standard includes both forms because they can convert back and forth in water and in the human body, depending on environmental conditions. The limit in the *Waterworks Regulations* is the same as EPA's, 0.1 mg/L (100 ppb). See 12VAC5-590-340, Table 340.1.

In 2014, the California Department of Public Health (CDPH) established an MCL for chromium-6 of 0.010 mg/L (10 ppb). However, in May 2017, the Superior Court of Sacramento County, California invalidated

California’s MCL. The court’s primary reason for finding the MCL invalid was that the CDPH (which was responsible for the drinking water program before it was transferred to the State Water Control Board) failed to comply with one of the requirements in the SDWA for adopting an MCL. In particular, CDPH “failed to properly consider the economic feasibility of complying with the MCL.” To date, California’s State Water Control Board has not completed its rulemaking process following the Superior Court’s 2017 decision. Consequently, chromium-6 continues to be regulated in California under its established MCL for total chromium, which is 0.050 mg/L (50 ppb), half of EPA’s standard and Virginia’s standard for chromium. No other state has an enforceable limit specifically for chromium-6 in drinking water.

1,4-Dioxane

New York is the first state in the nation to adopt an MCL for 1,4-dioxane in drinking water and has set that standard at 0.001 mg/L (1.0 ppb). Waterworks were required to monitor for PFOA, PFOS, and 1,4-dioxane beginning August 26, 2020. Large waterworks (serving 10,000 or more people) had to start sampling by October 25; medium waterworks (serving between 3,300 and 9,999 people) were required to begin sampling by November 25, 2020; and small waterworks (serving less than 3,300 people) had to start sampling by February 25, 2021.

California established a drinking water notification level for 1,4-dioxane, which is currently 1 microgram per liter (µg/L, which is equivalent to 0.001 mg/L and 1 ppb). Certain requirements and recommendations apply to a waterworks if it serves its customers drinking water containing a contaminant greater than its notification level. California’s response level – that is, the level at which water systems must remove a source of water from service – is 35 µg/L. The Florida Department of Health has established a health advisory level for 1,4-dioxane of 0.35 µg/L, but does not require routine sampling of public or private drinking water wells for the chemical. Other states have groundwater screening levels, exposure guidelines, exposure levels, etc., but no other state has established a MCL.

EPA has not initiated rulemaking for 1,4-dioxane, but has established a 1-day health advisory of 4.0 mg/L and a 10-day health advisory of 0.4 mg/L in drinking water for a 10-kilogram child and a lifetime health advisory of 0.2 mg/L in drinking water.

Periodic Review and Small Business Impact Review Announcement

If you wish to use this regulatory action to conduct, and this NOIRA to announce, a periodic review (pursuant to § 2.2-4017 of the Code of Virginia and Executive Order 14 (as amended, July 16, 2018)), and a small business impact review (§ 2.2-4007.1 of the Code of Virginia) of this regulation, keep the following text. Modify as necessary for your agency. Otherwise, delete the paragraph below and insert “This NOIRA is not being used to announce a periodic review or a small business impact review.”

This NOIRA is not being used to announce a periodic review or a small business impact review.

Public Participation

Indicate how the public should contact the agency to submit comments on this regulation, and whether a public hearing will be held, by completing the text below. In addition, as required by § 2.2-4007.02 of the Code of Virginia describe any other means that will be used to identify and notify interested parties and seek their input, such as regulatory advisory panels or general notices.

The Department is providing an opportunity for comments on this regulatory proposal, including but not limited to (i) the costs and benefits of the regulatory proposal, (ii) any alternative approaches, and (iii) the potential impacts of the regulation.

Anyone wishing to submit written comments for the public comment file may do so through the Public Comment Forums feature of the Virginia Regulatory Town Hall web site at: <https://townhall.virginia.gov>. Comments may also be submitted by mail, email, or fax to:

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In order to be considered, comments must be received by 11:59 pm on the last day of the public comment period.

In addition, the Department is using a regulatory advisory panel to provide professional specialization and technical assistance in the development of the proposed amendments. Persons with relevant expertise who are interested in assisting in the development of the proposed amendments should notify the Department's contact person no later than 30 days after publication of this notice and provide their name, address, phone number, email address and the organization you represent (if any). The primary function of the panel is to develop recommended amendments for the Board's consideration through the collaborative approach of regulatory negotiation and consensus. Multiple applications from a single company, organization, group or other entity count as one for purposes of making the decision specified in the preceding sentence. Notification of the composition of the panel will be sent to all applicants.

A public hearing will not be held following the publication of the proposed stage of this regulatory action.