



VIRGINIA

REGISTER OF REGULATIONS

VOL. 37 ISS. 20

PUBLISHED EVERY OTHER WEEK BY THE VIRGINIA CODE COMMISSION

MAY 24, 2021

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THE VIRGINIA REGISTER INFORMATION PAGE

THE VIRGINIA REGISTER OF REGULATIONS is an official state publication issued every other week throughout the year. Indexes are published quarterly, and are cumulative for the year. The *Virginia Register* has several functions. The new and amended sections of regulations, both as proposed and as finally adopted, are required by law to be published in the *Virginia Register*. In addition, the *Virginia Register* is a source of other information about state government, including petitions for rulemaking, emergency regulations, executive orders issued by the Governor, and notices of public hearings on regulations.

ADOPTION, AMENDMENT, AND REPEAL OF REGULATIONS

Unless exempted by law, an agency wishing to adopt, amend, or repeal regulations must follow the procedures in the Administrative Process Act (§ 2.2-4000 et seq. of the Code of Virginia). Typically, this includes first publishing in the *Virginia Register* a notice of intended regulatory action; a basis, purpose, substance and issues statement; an economic impact analysis prepared by the Department of Planning and Budget; the agency's response to the economic impact analysis; a summary; a notice giving the public an opportunity to comment on the proposal; and the text of the proposed regulation.

Following publication of the proposed regulation in the *Virginia Register*, the promulgating agency receives public comments for a minimum of 60 days. The Governor reviews the proposed regulation to determine if it is necessary to protect the public health, safety, and welfare, and if it is clearly written and easily understandable. If the Governor chooses to comment on the proposed regulation, his comments must be transmitted to the agency and the Registrar of Regulations no later than 15 days following the completion of the 60-day public comment period. The Governor's comments, if any, will be published in the *Virginia Register*. Not less than 15 days following the completion of the 60-day public comment period, the agency may adopt the proposed regulation.

The Joint Commission on Administrative Rules or the appropriate standing committee of each house of the General Assembly may meet during the promulgation or final adoption process and file an objection with the Registrar and the promulgating agency. The objection will be published in the *Virginia Register*. Within 21 days after receipt by the agency of a legislative objection, the agency shall file a response with the Registrar, the objecting legislative body, and the Governor.

When final action is taken, the agency again publishes the text of the regulation as adopted, highlighting all changes made to the proposed regulation and explaining any substantial changes made since publication of the proposal. A 30-day final adoption period begins upon final publication in the *Virginia Register*.

The Governor may review the final regulation during this time and, if he objects, forward his objection to the Registrar and the agency. In addition to or in lieu of filing a formal objection, the Governor may suspend the effective date of a portion or all of a regulation until the end of the next regular General Assembly session by issuing a directive signed by a majority of the members of the appropriate legislative body and the Governor. The Governor's objection or suspension of the regulation, or both, will be published in the *Virginia Register*.

If the Governor finds that the final regulation contains changes made after publication of the proposed regulation that have substantial impact, he may require the agency to provide an additional 30-day public comment period on the changes. Notice of the additional public comment period required by the Governor will be published in the *Virginia Register*. Pursuant to § 2.2-4007.06 of the Code of Virginia, any person may request that the agency solicit additional public comment on certain changes made after publication of the proposed regulation. The agency shall suspend the regulatory process for 30 days upon such request from 25 or more individuals, unless the agency determines that the changes have minor or inconsequential impact.

A regulation becomes effective at the conclusion of the 30-day final adoption period, or at any other later date specified by the promulgating agency, unless (i) a legislative objection has been filed, in which event the regulation, unless withdrawn, becomes effective on the date specified, which shall be after the expiration of the 21-day objection period; (ii) the Governor exercises his

authority to require the agency to provide for additional public comment, in which event the regulation, unless withdrawn, becomes effective on the date specified, which shall be after the expiration of the period for which the Governor has provided for additional public comment; (iii) the Governor and the General Assembly exercise their authority to suspend the effective date of a regulation until the end of the next regular legislative session; or (iv) the agency suspends the regulatory process, in which event the regulation, unless withdrawn, becomes effective on the date specified, which shall be after the expiration of the 30-day public comment period and no earlier than 15 days from publication of the readopted action.

A regulatory action may be withdrawn by the promulgating agency at any time before the regulation becomes final.

FAST-TRACK RULEMAKING PROCESS

Section 2.2-4012.1 of the Code of Virginia provides an alternative to the standard process set forth in the Administrative Process Act for regulations deemed by the Governor to be noncontroversial. To use this process, the Governor's concurrence is required and advance notice must be provided to certain legislative committees. Fast-track regulations become effective on the date noted in the regulatory action if fewer than 10 persons object to using the process in accordance with § 2.2-4012.1.

EMERGENCY REGULATIONS

Pursuant to § 2.2-4011 of the Code of Virginia, an agency may adopt emergency regulations if necessitated by an emergency situation or when Virginia statutory law or the appropriation act or federal law or federal regulation requires that a regulation be effective in 280 days or fewer from its enactment. In either situation, approval of the Governor is required. The emergency regulation is effective upon its filing with the Registrar of Regulations, unless a later date is specified per § 2.2-4012 of the Code of Virginia. Emergency regulations are limited to no more than 18 months in duration; however, may be extended for six months under the circumstances noted in § 2.2-4011 D. Emergency regulations are published as soon as possible in the *Virginia Register* and are on the Register of Regulations website at register.dls.virginia.gov.

During the time the emergency regulation is in effect, the agency may proceed with the adoption of permanent regulations in accordance with the Administrative Process Act. If the agency chooses not to adopt the regulations, the emergency status ends when the prescribed time limit expires.

STATEMENT

The foregoing constitutes a generalized statement of the procedures to be followed. For specific statutory language, it is suggested that Article 2 (§ 2.2-4006 et seq.) of Chapter 40 of Title 2.2 of the Code of Virginia be examined carefully.

CITATION TO THE VIRGINIA REGISTER

The *Virginia Register* is cited by volume, issue, page number, and date. **34:8 VA.R. 763-832 December 11, 2017**, refers to Volume 34, Issue 8, pages 763 through 832 of the *Virginia Register* issued on December 11, 2017.

The Virginia Register of Regulations is published pursuant to Article 6 (§ 2.2-4031 et seq.) of Chapter 40 of Title 2.2 of the Code of Virginia.

Members of the Virginia Code Commission: **John S. Edwards**, Chair; **Marcus B. Simon**, Vice Chair; **Ward L. Armstrong**; **Nicole Cheuk**; **Rita Davis**; **Leslie L. Lilley**; **Jennifer L. McClellan**; **Christopher R. Nolen**; **Don L. Scott, Jr.**; **Charles S. Sharp**; **Samuel T. Towell**; **Malfourd W. Trumbo**.

Staff of the Virginia Register: **Karen Perrine**, Registrar of Regulations; **Anne Bloomsburg**, Assistant Registrar; **Nikki Clemons**, Regulations Analyst; **Rhonda Dyer**, Publications Assistant; **Terri Edwards**, Senior Operations Staff Assistant.

PUBLICATION SCHEDULE AND DEADLINES

This schedule is available on the Virginia Register of Regulations website (<http://register.dls.virginia.gov>).

May 2021 through June 2022

<u>Volume: Issue</u>	<u>Material Submitted By Noon*</u>	<u>Will Be Published On</u>
37:20	May 5, 2021	May 24, 2021
37:21	May 19, 2021	June 7, 2021
37:22	June 2, 2021	June 21, 2021
37:23	June 16, 2021	July 5, 2021
37:24	June 30, 2021	July 19, 2021
37:25	July 14, 2021	August 2, 2021
37:26	July 28, 2021	August 16, 2021
38:1	August 11, 2021	August 30, 2021
38:2	August 25, 2021	September 13, 2021
38:3	September 8, 2021	September 27, 2021
38:4	September 22, 2021	October 11, 2021
38:5	October 6, 2021	October 25, 2021
38:6	October 20, 2021	November 8, 2021
38:7	November 3, 2021	November 22, 2021
38:8	November 15, 2021 (Monday)	December 6, 2021
38:9	December 1, 2021	December 20, 2021
38:10	December 17, 2021	January 3, 2022
38:11	December 31, 2021	January 17, 2022
38:12	January 14, 2022	January 31, 2022
38:13	January 26, 2022	February 14, 2022
38:14	February 9, 2022	February 28, 2022
38:15	February 23, 2022	March 14, 2022
38:16	March 9, 2022	March 28, 2022
38:17	March 23, 2022	April 11, 2022
38:18	April 6, 2022	April 25, 2022
38:19	April 20, 2022	May 9, 2022
38:20	May 4, 2022	May 23, 2022
38:21	May 18, 2022	June 6, 2022

*Filing deadlines are Wednesdays unless otherwise specified.

PERIODIC REVIEWS AND SMALL BUSINESS IMPACT REVIEWS

TITLE 6. CRIMINAL JUSTICE AND CORRECTIONS

BOARD OF JUVENILE JUSTICE

Report of Findings

Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Board of Juvenile Justice conducted a periodic review and a small business impact review of **6VAC35-41, Regulation Governing Juvenile Group Homes and Halfway Houses**, and determined that this regulation should be amended.

The proposed regulatory action to amend 6VAC35-41, which is published in this issue of the Virginia Register, serves as the report of findings.

Contact Information: Kristen Peterson, Regulatory Coordinator, Department of Juvenile Justice, P.O. Box 1110, Richmond, VA 23219, telephone (804) 598-3902, FAX (804) 371-6497, or email kristen.peterson@djj.virginia.gov.

TITLE 12. HEALTH

STATE BOARD OF HEALTH

Agency Notice

Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the following regulation is undergoing a periodic review and a small business impact review: **12VAC5-195, Virginia WIC Program**. The review will be guided by the principles in Executive Order 14 (as amended July 16, 2018). The purpose of this review is to determine whether this regulation should be repealed, amended, or retained in its current form. Public comment is sought on the review of any issue relating to this regulation, including whether the regulation (i) is necessary for the protection of public health, safety, and welfare or for the economical performance of important governmental functions; (ii) minimizes the economic impact on small businesses in a manner consistent with the stated objectives of applicable law; and (iii) is clearly written and easily understandable.

Public comment period begins May 24, 2021, and ends June 14, 2021.

Comments must include the commenter's name and address (physical or email) information in order to receive a response to the comment from the agency. Following the close of the public comment period, a report of both reviews will be posted on the Virginia Regulatory Town Hall and published in the Virginia Register of Regulations.

Contact Information: Robin Buskey, Policy Analyst, Office of Family Health Services, Virginia Department of Health, 109

Governor Street, Richmond, VA 23219, telephone (804) 863-7253.

STATE BOARD OF BEHAVIORAL HEALTH AND DEVELOPMENTAL SERVICES

Agency Notice

Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the following regulation is undergoing a periodic review and a small business impact review: **12VAC35-240, Eugenics Sterilization Compensation Program**. The review will be guided by the principles in Executive Order 14 (as amended July 16, 2018). The purpose of this review is to determine whether this regulation should be repealed, amended, or retained in its current form. Public comment is sought on the review of any issue relating to this regulation, including whether the regulation (i) is necessary for the protection of public health, safety, and welfare or for the economical performance of important governmental functions; (ii) minimizes the economic impact on small businesses in a manner consistent with the stated objectives of applicable law; and (iii) is clearly written and easily understandable.

Public comment period begins May 24, 2021, and ends June 14, 2021.

Comments must include the commenter's name and address (physical or email) information in order to receive a response to the comment from the agency. Following the close of the public comment period, a report of both reviews will be posted on the Virginia Regulatory Town Hall and published in the Virginia Register of Regulations.

Contact Information: Ruth Anne Walker, Director of Regulatory Affairs, Department of Behavioral Health and Developmental Services, Jefferson Building, 1220 Bank Street, 4th Floor, Richmond, VA 23219, telephone (804) 225-2252.

NOTICES OF INTENDED REGULATORY ACTION

TITLE 12. HEALTH

DEPARTMENT OF MEDICAL ASSISTANCE SERVICES

Withdrawal of Notice of Intended Regulatory Action

Title of Regulation: **12VAC30-120. Waivered Services (amending 12VAC30-120-370).**

Statutory Authority: § 32.1-325 of the Code of Virginia.

Notice is hereby given that the Department of Medical Assistance Services has WITHDRAWN the Notice of Intended Regulatory Action for 12VAC30-120, Waivered Services, that was published in [28:18 VA.R. 1494 May 21, 2012](#). The notice was published concurrently with an emergency action that was effective May 2, 2012, through May 1, 2013. The amendments described in the notice were addressed through a fast-track regulatory action that was published in [30:6 VA.R. 707-713 November 18, 2013](#); therefore, the notice is withdrawn.

Agency Contact: Emily McClellan, Regulatory Manager, Division of Policy and Research, Department of Medical Assistance Services, 600 East Broad Street, Richmond, VA 23219, telephone (804) 371-4300, FAX (804) 786-1680, or email emily.mcclellan@dmas.virginia.gov.

VA.R. Doc. No. R12-2787; Filed April 22, 2021, 7:50 a.m.

REGULATIONS

For information concerning the different types of regulations, see the Information Page.

Symbol Key

Roman type indicates existing text of regulations. Underscored language indicates proposed new text. Language that has been stricken indicates proposed text for deletion. Brackets are used in final regulations to indicate changes from the proposed regulation.

TITLE 6. CRIMINAL JUSTICE AND CORRECTIONS

BOARD OF JUVENILE JUSTICE

Proposed Regulation

Title of Regulation: 6VAC35-41. Regulation Governing Juvenile Group Homes and Halfway Houses (amending 6VAC35-41-10, 6VAC35-41-20, 6VAC35-41-40 through 6VAC35-41-120, 6VAC35-41-140 through 6VAC35-41-165, 6VAC35-41-180 through 6VAC35-41-220, 6VAC35-41-250, 6VAC35-41-260, 6VAC35-41-280 through 6VAC35-41-310, 6VAC35-41-330, 6VAC35-41-360 through 6VAC35-41-410, 6VAC35-41-440 through 6VAC35-41-470, 6VAC35-41-490, 6VAC35-41-510, 6VAC35-41-520, 6VAC35-41-540 through 6VAC35-41-570, 6VAC35-41-590 through 6VAC35-41-630, 6VAC35-41-650, 6VAC35-41-660, 6VAC35-41-680 through 6VAC35-41-820, 6VAC35-41-840 through 6VAC35-41-930, 6VAC35-41-950 through 6VAC35-41-1110, 6VAC35-41-1160 through 6VAC35-41-1320; adding 6VAC35-41-905, 6VAC35-41-935, 6VAC35-41-1005; repealing 6VAC35-41-30, 6VAC35-41-270, 6VAC35-41-800, 6VAC35-41-1120 through 6VAC35-41-1150).

Statutory Authority: §§ 16.1-309.9 and 66-24 of the Code of Virginia.

Public Hearing Information: No public hearing is currently scheduled.

Public Comment Deadline: July 23, 2021.

Agency Contact: Kristen Peterson, Regulatory Coordinator, Department of Juvenile Justice, P.O. Box 1110, Richmond, VA 23219, telephone (804) 598-3902, FAX (804) 371-6497, or email kristen.peterson@djj.virginia.gov.

Basis: Pursuant to § 16.1-309.9 of the Code of Virginia, the board is required to develop, promulgate, and approve standards for the development, implementation, operation, and evaluation of the community-based programs, services, and facilities authorized by the Virginia Juvenile Community Crime Control Act. Additionally, the board is entrusted with general, discretionary authority to promulgate regulations by § 66-10 of the Code of Virginia, which authorizes the board to promulgate such regulations as may be necessary to carry out the provisions of this title and other laws of the Commonwealth.

Purpose: The proposed amendments are a result of a comprehensive review of this chapter conducted by department staff and facility administrators from group homes,

shelter care facilities, and other nonsecure residential facilities regulated by the department. The amendments are necessary to clarify ambiguous or confusing provisions, eliminate requirements that are impractical or impose undue burdens on the regulants, incorporate active variances, and enact new requirements aimed at enhancing safety and security and improving the level of services available to juveniles placed in group homes and similar nonsecure juvenile residential facilities. The amendments also align with changes that have occurred since the department's last review of the regulation.

Prison Rape Elimination Act (PREA) of 2003 (P.L. 108-79) provides for the analysis of the incidence and effects of prison rape in federal, state, and local institutions and to provide information, resources, recommendations, and funding to protect individuals from prison rape. PREA created a commission charged with developing standards for the elimination of prison rape. The final rule for these standards became effective in 2012; however, juvenile correctional facilities had until October 2017 to comply with the standards related to staffing requirements and staffing ratios. Although group homes and other similar facilities under the department's jurisdiction are not secure facilities as contemplated by PREA, PREA's staffing ratios provide a safe and reasonable benchmark for ensuring the safety of residents in nonsecure juvenile facilities both while on campus and while off campus participating in facility-sponsored events. The regulation's existing requirements regarding staffing ratios in group homes do not align with the required staffing ratios in PREA, and the proposed amendments will conform Virginia's regulations to these requirements.

The proposed amendments incorporate existing variances that acknowledge that residents in independent living (IL) programs are developing skills and behaviors for successful IL and therefore do not need the same protections or level of supervision as residents in other group home facilities. The variances currently in place for IL programs address resident nutrition and staffing during resident emergencies. Because these variances are not permanent, the applicable IL program must seek authorization from the board prior to the variance expiration date in order to renew its provisions.

Unlike the other residential facilities regulated by the board, juvenile correctional centers (JCCs) and secure juvenile detention centers (JDCs), group homes, shelter care facilities, and other similar facilities are prohibited from placing residents behind locked doors or in secure areas where they are not free to leave. Whenever residents are confined in their rooms in JCCs and JDCs, staff must conduct periodic room checks to ensure the resident is safe. This requirement is not in

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place for group homes and similar facilities. The proposal directs group home staff to conduct periodic checks on residents in the facility once every 30 minutes or more often if the circumstances justify additional checks. IL programs are excused from this requirement.

Substance: The department recommends the following new provisions to the chapter:

6VAC35-41-935, requiring staff (except staff in IL programs) to conduct periodic checks of each resident in the facility at least once every 30 minutes or more often if the circumstances justify.

6VAC35-41-1005, allowing staff in IL programs an exception to the general one-to-16 staffing ratio requirement so that in emergencies, a direct care staff in these programs may leave the facility for no longer than one hour to attend to a resident who is away from the facility and in need of immediate assistance.

The department recommends several substantive amendments to existing language in this regulation:

6VAC35-41-10, amending various definitions, including: (i) IL programs (amended to require the director to approve these programs, rather than the board); (ii) on duty (expanded to include the time an employee is responsible for the direct care of residents, as well as the direct supervision of such residents); and (iii) rest day (amended to allow staff to perform nonsupervisory duties on rest days). Additionally, definitions were added for the following new terms: contractor, grievance, legally authorized representative, planned admission, tuberculosis risk assessment, tuberculosis screening, and wilderness program.

6VAC35-41-40, striking the provision requiring facilities to ensure that failure to comply with the regulation does not pose an immediate and direct danger to residents.

6VAC35-41-50, replacing the board with the director as the individual authorized to set age limits in group homes.

6VAC35-41-60, replacing the board with the audit team leader as the entity to whom reports and information demonstrating compliance with the regulatory requirements must be submitted.

6VAC35-41-90, directing facilities to describe in the serious incident report the manner in which the incident was communicated to the director or the director's designee.

6VAC35-41-105, clarifying that group home staff are only required to alert the facility administrator to criminal activity suspected to have occurred at the facility or at a facility-sponsored activity.

6VAC35-41-110, requiring emergency grievances be acted on rather than heard within eight hours, establishing a new definition for emergency grievance (set out in 6VAC35-41-10), and requiring the completion and documentation of grievances be in accordance with facility procedures.

6VAC35-41-140, authorizing group homes to utilize residents in human research only if the facilities comply with Chapter 170 of the department's regulations and amending the definition of human research to mirror Chapter 170's definition.

6VAC35-41-160, removing the mandate that facilities not subject to the rules of the governing authority or a local government personnel office follow the Department of Human Resources minimum entry-level qualifications.

6VAC35-41-165, clarifying that tuberculosis risk assessments must be completed and evidenced on an assessment form containing the elements on the form published by the Virginia Department of Health and limiting the authority to interpret the results of the assessment to a physician, a physician assistant, nurse practitioner, or registered nurse. The proposal makes similar changes to 6VAC35-41-1210, which addresses tuberculosis screenings for residents.

6VAC35-41-180, prohibiting employees in group homes who are hired under the fingerprint exception from working directly with residents until all required background checks have been satisfied. 6VAC35-41-180 and 6VAC35-41-290 also prohibit group homes from hiring employees or contractors or taking on volunteers who have been convicted of certain barrier crimes listed in § 19.2-392.02 of the Code of Virginia.

6VAC35-41-190 and 6VAC35-41-300, eliminating the requirement that group home staff address population control during employee and volunteer orientation.

6VAC35-41-200, removing the mandate that training accord with the provider's training plan.

6VAC35-41-210, removing the duty of direct care and direct supervision staff to receive 40 hours of annual training, instead requiring such staff to receive an unspecified volume of training in certain topics and 15 hours of additional training in other topics. The proposal also requires the refresher training applicable to medication administrators to include a review of the requirements for medication administration set out in 6VAC35-41-1280.

6VAC35-41-310, adding personnel records for contractors to the list of records that must be maintained and eliminating the requirement that facilities retain annual performance evaluations in the employee's personnel record. The proposal also clarifies that personnel records of interns may be limited to the required background checks and requires the facilities to maintain all such personnel records confidentially and securely.

6VAC35-41-330, making the facility's duty to keep separate health records on each resident mandatory rather than discretionary.

6VAC35-41-360, authorizing the facility administrator to identify which safety, emergency, and communications equipment and systems are critical and to require only those items to be subject to periodic testing, inspection, and maintenance.

6VAC35-41-440, broadening the prohibition against smoking in certain areas of the facility by imposing an absolute prohibition on resident possession, purchase, use, or distribution of tobacco products or nicotine vapor products and prohibiting staff, contractors, volunteers, interns, or visitors from using such products in any areas of the facility or its premises.

6VAC35-41-470, removing the directive that animals maintained on the premises be housed a reasonable distance from sleeping and living areas.

6VAC35-41-490, requiring the emergency preparedness and response plan to identify evacuation means for any individual in the facility who may require special accommodations rather than limiting the targets to residents with disabilities.

6VAC35-41-510, prohibiting strip searches and visual anal and vaginal cavity searches in group homes, in addition to the existing prohibition on manual and instrumental searches of such body cavities.

6VAC35-41-550, directing group homes to provide external parties (other than parents or guardians) responsible for transporting residents whom the facility has flagged for additional monitoring due to suicide inclinations or other special medical needs with a department-approved form identifying pertinent information necessary for the resident's safe transportation.

6VAC35-41-560, removing the qualifier that facilities may not place residents alone in a locked room, instead imposing an absolute prohibition on confining residents in locked rooms, regardless of whether they are alone or with others.

6VAC35-41-565, specifying that the assessment needed to determine whether a resident is a member of a vulnerable population must occur immediately upon a resident's admission to a group home facility.

6VAC35-41-570, providing that the resident's mail referenced in this section includes electronic mail and specifying where first class letters and packages received for transferred or released residents must be forwarded.

6VAC35-41-590, removing the facility's obligation to make visitation procedures available to other interested persons in addition to the resident and parent or legal guardian.

6VAC35-41-620, replacing the drought-related exceptions to the directive that facilities allow residents an opportunity to shower daily with a more generalized exception that applies if there is a documented emergency.

6VAC35-41-650 and 6VAC35-41-1000, allowing IL programs exceptions from certain nutrition-related provisions.

6VAC35-41-680, clearly distinguishing between recreational requirements in wilderness programs and in group home facilities by expressly exempting wilderness programs from the provisions of this section. The proposal incorporates many of the requirements applicable to wilderness programs into recreational programs for group home facilities.

6VAC35-41-700, requiring the facility to obtain written permission from the parent or legal guardian and the resident before using the resident for fundraising activities.

6VAC35-41-730, making the individual who referred the resident, and not the provider, the entity responsible for completing the application for admission into the group home facility.

6VAC35-41-750 and 6VAC35-41-780, removing the language regarding self-admissions to shelter care facilities. The proposal also removes this reference from the definition of emergency admission.

6VAC35-41-800, repealing the provision that prohibits group homes from placing residents outside the facility before obtaining a placing agency license from the Department of Social Services.

6VAC35-41-890, removing the directive that the department approve procedures related to positive relationships with facility neighbors.

6VAC35-41-900, eliminating facility discretion to allow residents to visit the homes of staff members, in favor of an absolute prohibition.

6VAC35-41-910, repealing the provision prohibiting direct care staff from taking on nondirect care responsibilities if they interfere with the staff's direct care duties.

6VAC35-41-920, allowing IL program staff to leave the facility temporarily to attend to a resident off-site in an emergency, provided certain requirements are met.

6VAC35-41-930, modifying the required staff-to-resident ratios from the current one-to-10 to one-to-eight and adding language giving the facility administrator discretion to determine appropriate staffing ratios for off-campus trips if the ratios do not fall below the one-to-eight directive; striking the current one-to-15 staff-to-resident ratio mandate in IL programs; and striking the requirement to have one direct care staff on duty for every 30 residents in facilities on every floor where residents are sleeping.

6VAC35-41-950, moving the requirements in this section to a new section, eliminating the requirement that work assignments in group homes accord with the resident's individual service plan, and striking the provision requiring parents to consent to such work assignment and applicable rates of pay.

6VAC35-41-970, replacing the board with the facility administrator as the entity authorized to approve the materials and curricula for IL programs and eliminating the facility's obligation to utilize a department-approved assessment tool to assess living skills for residents in IL programs.

6VAC35-41-980, removing the directive to have trained staff administer the assessment tool currently required in 6VAC35-41-970.

Regulations

6VAC35-41-1000, removing as impractical the requirement that IL programs ensure adequate nutrition of each resident by maintaining menus of meals served on file.

6VAC35-41-1010, 6VAC35-41-1020, 6VAC35-41-1030, 6VAC35-41-1040, and 6VAC35-41-1070, narrowing the application of the wilderness program provisions to exclude facilities or programs that are not focused primarily on wilderness activities.

6VAC35-41-1010, replacing the board with the director as the individual authorized to approve wilderness programs.

6VAC35-41-1020, requiring the same one-to-eight staff-to-resident ratios in wilderness programs as in group homes.

6VAC35-41-1040, eliminating the requirement that each resident in a wilderness program has adequate personal storage.

6VAC35-41-1070, directing the trip coordinator for wilderness programs to ensure that a certified lifeguard supervises all aquatic activity.

6VAC35-41-1080, striking the provision that gives family-oriented groups (FOGs) the discretion to determine, through written procedures, how and when various parties must be notified of serious incidents. The new provision imposes the same serious incident report (SIR) reporting requirements on staff in FOGs as other nonsecure residential facilities pursuant to 6VAC35-41-90.

6VAC35-41-1100, requiring FOGs to conduct and document inspections on smoke alarm devices at least monthly and directing every bed in a FOG to have mattresses, pillows, linens, and similar items, cleaned once every seven days.

6VAC35-41-1100, subjecting FOGs to a number of additional regulatory provisions currently applicable to other nonsecure residential facilities.

6VAC35-41-1120, 6VAC35-41-1130, and 6VAC35-41-1140, repealing these sections because the department does not regulate respite care facilities. Separate provisions that address respite care facilities in other areas of the regulation also are removed (6VAC35-41-1170 C and 6VAC35-41-1250 D).

6VAC35-41-1260, requiring group homes to maintain first aid kits in facility vehicles as well as in the facility.

6VAC35-41-1270, allowing an exception to the rule requiring one of certain identified individuals to accompany residents being transported away from a group home for outside medical treatment. The exception permits facility staff to send a staff member to the medical facility as soon as reasonably possible if staff accompanying the resident would jeopardize resident or staff safety in the facility.

6VAC35-41-1280, modifying the definition of medication incident by excluding from the list of such incidents occasions when facilities fail to administer medication due to repeated, unsuccessful attempts to obtain the medication.

6VAC35-41-1300, removing the directive that staff review support plans for residents needing additional supports and be

prepared to implement such plans prior to working alone with the assigned resident.

6VAC35-41-1310, striking the mandate that facilities base their use of timeout and the frequency of resident checks during timeout on the resident's chronological and developmental levels. Instead, the proposal requires that the facility evaluate whether the resident is prepared to be released from timeout during each 15-minute check.

Issues: Each of the amendments proposed in this regulatory action is expected to ensure the safety and well-being of residents and staff in nonsecure residential facilities, thereby benefiting the public. The heightened monitoring requirements proposed in 6VAC35-41-935 and increased staffing protocols will ensure that residents are accounted for and may reduce the likelihood of injuries or other incidents. Imposing notification requirements on facility staff when external parties are transporting certain residents off site will put such parties on notice that additional monitoring may be warranted. Expanded smoking prohibitions will reduce the likelihood that tobacco and nicotine vapor products fall into the hands of residents for whom possession of such products is unlawful. These changes are expected to benefit the department and the Commonwealth as a whole to the extent that more effective programming in the community decreases the likelihood of commitment to the department or recidivism upon release.

A handful of amendments may impose additional burdens on affected group homes or department staff, but the additional protections resulting from these amendments are expected to outweigh any burdens to facility and department staff.

Department of Planning and Budget's Economic Impact Analysis:

Summary of the Proposed Amendments to Regulation. The Board of Juvenile Justice (Board) proposes to: 1) voluntarily adopt staffing ratios of the federal 2003 Prison Rape Elimination Act, 2) require facility staff to conduct periodic room checks, 3) change the specific number of hours applicable to different types of annual training, 4) require facilities to act on rather than hear a resident's emergency grievances within a specific time period, 5) establish information sharing requirements when individuals who do not work in the facility transport residents off-site, 6) require that a first-aid kit be maintained in facility and in transport vehicles, 7) no longer require facilities to make visitation procedures available to persons other than the resident, parents, or legal guardians, 8) incorporate existing variances granted to one independent living program, 9) no longer require parental consent for work assignments, and 10) streamline many existing requirements and clarify regulatory language.

Background. This regulation establishes the minimum standards with which staff in non-secure juvenile group homes and similar non-secure facilities must comply. These facilities are operated by local governments or groups thereof (commissions), but are subject to certification by the Board. The primary purpose of the regulation is to ensure safety and

rehabilitation of residents within these facilities. The regulation addresses a wide range of topics applicable to group homes, including personnel requirements, physical plant, facility safety and security, residents rights, program operations, health care services, and behavior support and management. The regulation also applies to other non-secure facilities such as independent living programs,¹ wilderness programs,² and family-oriented group homes.³ Currently, there are 13 group homes and three independent living programs. However, there are no wilderness or family-oriented group homes operated in the Commonwealth currently.

The proposed amendments are a result of a comprehensive review conducted by the Department of Juvenile Justice (DJJ) staff and facility administrators from group homes regulated by DJJ.

Estimated Benefits and Costs. This action contains proposals for numerous changes. Most of the changes are intended to eliminate requirements that the Board either believes are impractical or that impose small but undue burdens on regulated facilities; other proposed changes would improve the clarity of the language. The changes that appear to be substantive are discussed below.

In 2003, Congress enacted the Prison Rape Elimination Act (PREA) to "provide for the analysis of the incidence and effects of prison rape in federal, state, and local institutions and to provide information, resources, recommendations, and funding to protect individuals from prison rape." The act created a commission charged with developing standards for the elimination of prison rape. The final rule for these standards became effective in 2012; however, juvenile correctional facilities had until October 2017 to comply with the standards related to staffing requirements and staffing ratios. Although group homes under the department's jurisdiction are not "secure facilities" as contemplated by PREA, according to DJJ the staffing ratios in the PREA provide a safe and reasonable benchmark for ensuring the safety of residents in non-secure juvenile facilities, both while on campus and during facility-sponsored events held off campus. Currently, the regulation's existing requirements regarding staffing ratios in group homes and independent living programs do not align with the staffing ratios in PREA, and the proposed amendments would conform Virginia's regulations to these requirements.

The proposal changes the current one to 10 on-site staffing ratio (staff/residents) during awake hours applicable in group homes to one to eight in order to conform to the PREA staffing ratios. The proposal also gives the facility administrator the discretion to increase appropriate staffing ratios while residents are off-site and participating in facility sponsored activities or events. The administrator must consider which residents are participating, the nature of the event, and other factors but shall never allow less than one direct care staff member for every eight or fewer residents off-site.

Although, this change represents a 25% increase in the staffing ratio, at present there are no group homes with more than seven

residents based on information received from 12 out of 13 facilities in response to a recent survey. It must be noted that the recent resident counts reflected in the survey were significantly impacted by COVID-19 and do not reflect the average daily population numbers for previous years. Even then though, DJJ reports that the majority of the group homes were already in compliance with the PREA staffing ratios. In the unlikely event that a specific facility does not meet the proposed ratios under their existing staffing policies, this change may result in additional personnel costs. If additional personnel are needed, such additional costs will be borne by the locality or commission responsible for the facility's operation. On the other hand, an increased staffing ratio would help ensure that residents are accounted for and properly monitored, which may reduce the likelihood of injuries or other incidents.

The three independent living programs have been and would continue to be exempt from the staffing ratios. Instead, they are currently required to maintain at least one direct care staff member awake, on duty, and responsible for supervision of every 15 residents on the premises during all hours, regardless of whether residents are scheduled to be awake or asleep. The proposal relaxes the one to 15 staffing requirement in independent living programs to one to 16. Although, this change represents a 6.25% reduction in required staffing at independent living programs, it would have no immediate impact on current facilities because no independent living program has more than eight residents at this time.

Unlike the other residential facilities regulated by the board (secure juvenile correctional centers and secure juvenile detention centers), group homes and other similar non-secure facilities are prohibited from placing residents alone behind locked doors or in secure areas where they are not free to leave. Whenever residents are confined in their rooms in secure facilities, staff must conduct periodic room checks to ensure the resident is safe. This requirement is not in place for group homes and similar non-secure facilities. The regulation proposes to change this, by directing staff in all types of non-secure facilities except independent living programs to conduct periodic checks on residents in the facility once every 30 minutes, or more often if the circumstances justify additional checks. The proposal directs that these checks be documented in accordance with written procedures. Independent living programs are exempt from this requirement. According to DJJ, residents in independent living programs are developing skills to live independently; therefore, periodic checks are not necessary for such programs. The proposal is intended to ensure that group homes are adequately monitoring residents within their independent living programs to ensure their safety.

DJJ conducted a survey of the 13 group homes and three independent living programs regulated to determine what impact the proposed new requirements would have. The respondents indicated that the proposed change would not affect their facilities because staff were already conducting these checks.

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Emergency grievances. The proposal requires that resident's emergency grievances be acted on, rather than heard, within eight hours. The proposal adds language that requires the grievance responses to be completed and documented in accordance with facility procedures. According to DJJ, grievances of this nature may pose an immediate risk of hardship or harm to a resident and demand urgency. This provision would prevent the facility from hearing the grievance within the eight-hour period but then extending the review or determination regarding the grievance well beyond the eight-hour limit.

This change may necessitate additional resources to meet the deadline depending upon the complexity of the grievance or reallocation of existing resources currently available but would ensure both a prompt review and response. While the specific costs associated with the change cannot be determined, DJJ does not expect this change to result in significant administrative expenses.

Information to external parties. The proposal directs all types of non-secure facilities to provide a DJJ-approved form to external parties when they transport residents flagged for additional monitoring due to recent suicide attempts or ideations or because of special medical needs. The form must identify pertinent information concerning the resident's additional monitoring needs if such information reasonably could be considered necessary for the resident's safe transportation and supervision. This directive would not apply if the carrier is the resident's parent or guardian or if an emergency renders completion of the form impracticable or infeasible.

This proposal would create additional responsibilities for existing staff but is intended to ensure that such external parties take measures necessary to help the resident's and their safety during transportation. The facilities would have flexibility regarding how to implement this provision and may be able to control the burden on facility resources. Therefore, the magnitude of the impact cannot be determined. On the other hand, when external parties are transporting certain residents off-site, the proposed change would put such parties on notice that additional monitoring may be warranted.

First-aid kits. The proposal adds language requiring that a first-aid kit must be maintained within the facility and in facility vehicles used to transport residents. This amendment is intended to help staff of facilities respond to minor resident injuries while on premises and in transporting residents off-site. According to DJJ, this requirement is consistent with most facilities' current practices. Thus, non-secure facilities are not expected to incur significant additional expenses because most already meet this requirement.

Staff training. The proposal removes the obligation of staff in group homes and other non-secure facilities to complete 40 hours of training annually on specified topics (i.e., suicide prevention, child abuse and neglect, mandatory reporting, residents' rights, standard precautions, and behavior

intervention procedures), in favor of a requirement that they receive an unspecified volume of training on those topics. The proposal also establishes that the currently unspecified volume of additional annual training be appropriate to an individual's job duties, and that it must be at least 15 hours. According to DJJ, these two changes would allow non-secure facilities to better tailor staff training to meet the needs of staff while ensuring enough training appropriate to the individual's job duties. The net impact of these two changes is expected to be a reduction in annual training hours, freeing up resources to devote to facility operations and to residents, and a likely reduction in administrative expenses.

The proposal also strikes the requirement to maintain a training plan. Non-secure facility training plans generally ensure that staff are complying with existing regulations. DJJ points out that a training plan is not required under the comparable regulations that govern secure facilities, that a training plan is unnecessary, and that the absence of a training plan would not prevent facilities from satisfying the training mandates in this section. Thus, no significant effect is expected from this particular change.

Visitation procedures. The proposal removes the obligation to make visitation procedures available to "other interested persons important to the resident" in addition to the resident, parents or legal guardians. According to DJJ, the phrase "other interested persons important to the resident" is vague, impractical, and has the potential to strain unnecessarily facility resources. Under the proposal, facilities would maintain the discretion to provide other interested parties with these procedures, but would no longer be under a mandate. Eliminating the requirement to provide visitation procedures to "other interested persons important to the resident" may reduce the amount of materials needed for distribution, which may result in a small administrative savings.

Inclusion of active variances. The proposed amendments incorporate existing variances currently in place for one of the independent living programs addressing resident nutrition and staffing during resident emergencies. Because these variances are not permanent, the affected independent living program must seek reauthorization periodically from the board prior to the variance expiration date in order to renew its provisions.

One of the variances proposed to be incorporated allows the sole direct care staff member on duty to leave an independent living program facility in emergencies for no longer than one hour to attend to a resident off-site who needs immediate assistance. This language reflects an active variance currently in place for one independent living program.

The other variance proposed to be incorporated is the exemption to the requirement that the facility maintain a file with menus of all meals served. According to DJJ, this provision is not practical for residents in independent living programs who may work several jobs or hours that prevent them from preparing their own meals and maintaining documentation of what they prepared. This change is

consistent with a variance issued to the same independent living program in 2016 that excuses its apartment-style program from the menu retention requirement due to these limitations.

Because the proposed regulatory change is consistent with the existing variances, the change should have no significant impact on the program with the variances other than producing small administrative cost savings due to avoidance of repeated variance applications. Under the proposal, the other two independent living programs would also be eligible for the same exceptions and may realize some administrative cost savings.

Parental consent for employment. The proposal removes the requirement to obtain consent from the parent or legal guardian for work assignments (paid or unpaid) including chores or outside employment, and instead requires the facility administrator to collaborate with the parent or legal guardian and the referring agency before approving such work assignments. This provision preserves the parent's right to weigh in on these decisions but ultimately recognizes the possibility that parents or legal guardians may not always be considering the resident's best interests in making these determinations. According to DJJ, this change could improve employability of some of the residents.

Businesses and Other Entities Affected. The Board currently regulates 13 group homes and three independent living programs operated by local governments or local commissions.⁴ Proposed changes to the regulatory provisions would affect these facilities as well as their staff. According to a recent survey conducted by DJJ, to which 15 of the 16 facilities responded, there are 62 residents at 15 of these facilities. The range of residents per facility is between zero and eight, the average being 4.1 residents.

As noted, the proposals for maintaining first-aid kits and acting on emergency grievances may introduce additional administrative costs. On the other hand, the proposals to provide more flexibility in staff training, narrowing who must be given the visitation procedures, and incorporation of active variances may provide some administrative cost savings. An adverse economic impact⁵ on affected facilities is not indicated because the magnitude of the possible costs that may be introduced to them appears to be insignificant.

Local law enforcement, divisions of social services, and other local entities that work closely with residents or are responsible for transporting residents in these facilities may benefit from the enhanced notification provisions as to the mental state of the resident being transported. Aside from the administrative benefits from incorporation of the existing variances made available to the other two independent living programs, no other entities appear to be disproportionately affected.

Small Businesses⁶ Affected: The proposed regulation may indirectly affect small businesses only insofar as a small business provides a program or service subject to this regulation. Also, none of the proposed changes appears to have

a significant economic impact. Thus, the proposed amendments should not have an adverse effect on small businesses.

Localities⁷ Affected.⁸ As stated, the 16 facilities are operated by local governments or local commissions. These facilities are located in County of Arlington, City of Falls Church, City of Fredericksburg, County of Fairfax (3), Prince William County, City of Alexandria, City of Virginia Beach (3), City of Lynchburg, City of Portsmouth, Chesterfield County, City of Martinsville, and York County.

The additional administrative costs that may be introduced by the amendments appear to be insignificant. Thus, the amendments do not appear to affect any locality adversely or disproportionately.

Projected Impact on Employment. According to DJJ, the removal of the parental consent for a resident's work assignments may improve employability of some of the residents, which would moderately add to the labor supply. No significant impact on employment is expected from other changes.

Effects on the Use and Value of Private Property. The proposed amendments do not affect private property or real estate development costs.

¹"Independent living program" is defined as "a competency-based program specifically approved by the director to provide residents with the opportunity to develop the skills necessary to become independent decision makers and self-sufficient adults and to live successfully on their own following completion of the program."

²"Wilderness program" is defined as "a residential program that provides treatment and services to residents primarily through experiential wilderness expeditions."

³"Family-oriented group home" is defined as "a private home in which residents may reside upon placement by a lawful placing agency."

⁴Data source: DJJ

⁵Adverse impact is indicated if there is any increase in net cost or reduction in net revenue for any entity, even if the benefits exceed the costs for all entities combined.

⁶Pursuant to § 2.2-4007.04 of the Code of Virginia, small business is defined as "a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million."

⁷"Locality" can refer to either local governments or the locations in the Commonwealth where the activities relevant to the regulatory change are most likely to occur.

⁸§ 2.2-4007.04 defines "particularly affected" as bearing disproportionate material impact.

Agency's Response to Economic Impact Analysis: The responsible Board of Juvenile Justice agency representatives have reviewed the Department of Planning and Budget's economic impact analysis and are in agreement with the analysis.

Summary:

The proposed amendments (i) voluntarily adopt staffing ratios of the federal 2003 Prison Rape Elimination Act, (ii) require facility staff to conduct periodic room checks, (iii)

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change the specific number of hours applicable to different types of annual training, (iv) require facilities to act on rather than hear a resident's emergency grievances within a specific time period, (v) establish information sharing requirements when individuals who do not work in the facility transport residents off site, (vi) require that a first-aid kit be maintained in facility and in transport vehicles, (vii) no longer require facilities to make visitation procedures available to persons other than the resident, parents, or legal guardians, (viii) incorporate existing variances granted to one independent living program, (ix) no longer require parental consent for work assignments, and (x) streamline existing requirements and clarify regulatory language.

6VAC35-41-10. Definitions.

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"Annual" means within 13 months of the previous event or occurrence.

"Aversive stimuli" means physical forces, such as sound, electricity, heat, cold, light, water, or noise, or substances, such as hot pepper, pepper sauce, or pepper spray, measurable in duration and intensity, that when applied to a resident are noxious or painful to the resident.

"Behavior management" means the principles and methods employed to help a resident achieve positive behavior and to address and correct a resident's inappropriate behavior in a constructive and safe manner in accordance with written procedures governing program expectations, treatment goals, and resident and employee safety and security.

"Board" means the Board of Juvenile Justice.

"Case record" ~~or "record"~~ means written ~~or electronic~~ information ~~relating to one~~ regarding a resident and the resident's family, if applicable. This information includes, ~~but is not limited to,~~ social, medical, psychiatric, and psychological records; reports; demographic information; agreements; all correspondence relating to care of the resident; individual service plans with periodic revisions; aftercare plans and discharge summary; and any other information related to the resident.

"Contraband" means ~~any~~ an item possessed by or accessible to a resident or found within a facility or on its premises ~~that~~ (i) ~~that~~ is prohibited by statute, regulation, or facility procedure, (ii) ~~that~~ is not acquired through approved channels or in prescribed amounts, or (iii) ~~that~~ may jeopardize the safety and security of the facility or individual residents.

"Contractor" means an individual who (i) has entered into a legal agreement with a juvenile residential facility to provide services directly to a resident, (ii) will work with the resident

more than twice per month, and (iii) in the provision of the contractual services, will be alone with the resident.

"Department" ~~or "DJJ"~~ means the Department of Juvenile Justice.

"Direct care staff" means the staff whose primary job responsibilities are (i) maintaining the safety, care, and well-being of residents and (ii) implementing the structured program of care and behavior management program.

"Direct supervision" means ~~that the act of staff may work~~ working with residents while not in the presence of direct care staff. Staff members who provide direct supervision are responsible for maintaining the safety, care, and well-being of the residents in addition to providing services or performing the primary responsibilities of that position.

"Director" means the ~~Director~~ director of the ~~Department of Juvenile Justice~~ department.

"Emergency" means a sudden, generally unexpected occurrence or set of circumstances demanding immediate action, such as a fire, chemical release, loss of utilities, natural disaster, ~~taking of hostages~~ hostage situation, major ~~disturbances~~ disturbance, escape, ~~and~~ or bomb ~~threats~~ threat. Emergency does not include regularly scheduled employee time off or other situations that ~~could be~~ reasonably could be anticipated.

"Emergency admission" means the unplanned or unexpected admission of a resident in need of immediate care.

"Facility administrator" means the individual who ~~has the responsibility~~ is responsible for the on-site management and operation of the facility on a regular basis or that individual's designee.

~~"Family-oriented~~ "Family-oriented group home" means a private home in which residents ~~may~~ reside upon placement by a lawful placing agency.

"Grievance" means a written communication developed by a resident to report a real or imagined wrong or other cause for complaint or protest, particularly involving a claim of unfair treatment.

"Group home" means a juvenile residential facility that is a ~~community based, home-like single dwelling, or its acceptable equivalent~~ community-based dwelling, other than the private home of the operator, ~~and that~~ does not exceed the capacity approved by the ~~regulatory authority, director~~. For the purpose of this chapter, a group home includes a halfway house ~~that houses residents in transition from a commitment to the department, a shelter care facility, or an independent living facility.~~

"Health care record" means the complete record of medical screening and examination information and ongoing records of medical and ancillary service delivery, including all findings,

diagnoses, treatments, dispositions, prescriptions, and their administration.

"Health care services" means preventive and therapeutic actions taken for the physical and mental well-being of a resident. Health care services include medical, dental, orthodontic, mental health, family planning, obstetrical, gynecological, health education, and other ancillary services.

"Health-trained personnel" means an individual who is trained by a licensed health care provider to perform specific duties, such as administering health care screenings, reviewing screening forms for necessary follow-up care, preparing residents and records for outside medical visits, and assisting in the implementation of certain medical orders.

"Human research" means a systematic investigation, including research development, testing, and evaluation utilizing human subjects that is designed to develop or contribute to generalized knowledge. Human research shall not be deemed to include research exempt from federal research regulation pursuant to 45 CFR 46.101(b).

"Independent living program" means a competency-based program specifically approved by the director to provide residents with the opportunity to develop the skills necessary to become independent decision makers and self-sufficient adults and to live successfully on their own following completion of the program.

"Individual service plan" or "service plan" means a written plan of action developed, revised as necessary, and reviewed at specified intervals to meet the needs of a resident. The individual service plan specifies (i) measurable short-term and long-term goals and (ii) the objectives, strategies, and time frames for reaching the goals.

"Juvenile residential facility" or "facility" means a publicly or privately operated facility or placement where 24-hour-per-day nonsecure residential program that is required to be certified and that provides 24-hour-per-day care is provided to residents who are separated from their parents or legal guardians and that is required to be certified. As used in this regulation, the term includes, but is not necessarily limited to, group homes, family-oriented group homes, and halfway houses independent living programs and excludes juvenile correctional centers and juvenile detention centers.

"Legally authorized representative" means, in the following specified order of priority, (i) the parent or parents having custody of a minor; (ii) the legal guardian of a minor; (iii) the spouse of a minor, except where a suit for divorce has been filed and the divorce decree is not yet final; or (iv) a person or judicial or other body authorized by law or regulation to provide consent on behalf of a minor, including an attorney in fact appointed under a durable power of attorney, provided the power grants the individual the authority to make such a decision.

"Legal mail" means written material that is sent to or received from a designated class of correspondents, as defined in written procedures, which shall include any court, legal counsel, administrator of the grievance system, or administrator of the department, facility, provider or governing authority.

"Living unit" means the space in which a particular group of residents is under the care of a juvenile residential facility resides. A living unit contains sleeping areas rooms, bath and toilet facilities, and a living room or its equivalent for use by the residents of the living unit. Depending upon its design, a building may contain one living unit or several separate living units.

"Medication incident" means an error made in administering a medication to a resident, including the following: (i) a resident is given incorrect medication, (ii) medication is administered to an incorrect resident, (iii) an incorrect dosage is administered, (iv) medication is administered at a wrong time or not at all, and (v) the medication is administered through an improper method. A medication incident shall not include (a) a resident's refusal of appropriately offered medication or (b) a facility's failure to administer medication due to repeated, unsuccessful attempts to obtain such medication.

"On duty" means the period of time an employee is responsible for the direct care or direct supervision of one or more residents.

"Parent" or "legal guardian" means (i) a biological or adoptive parent who has legal custody of an individual, including either parent if custody is shared under a joint decree or agreement; (ii) a biological or adoptive parent with whom the individual resident regularly resides; (iii) a person judicially appointed as a legal guardian of a resident; or (iv) a person who exercises the rights and responsibilities of legal custody by delegation from a biological or adoptive parent, upon provisional adoption, or otherwise by operation of law.

"Physical restraint" means the application of behavior intervention techniques involving a physical intervention to prevent an individual from moving all or part of that individual's body.

"Placement" means an activity by any person that provides the provision of assistance to a placing agency, parent, or legal guardian in locating and effecting the movement of a resident to a juvenile residential facility.

"Placing agency" means (i) any a person, group, court, court service unit, or agency licensed or authorized by law to place residents in a juvenile residential facility or (ii) a local board of social services authorized to place residents in a juvenile residential facility.

"Planned admission" means the admission of a resident following evaluation of an application for admission and execution of a written placement agreement.

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"Premises" means the tracts of land on which any part of a facility is located and any buildings on such tracts of land.

"Provider" means the person, corporation, partnership, association, locality, commission, or public agency to whom a license or certificate to operate a juvenile residential facility is issued and ~~who~~ that is legally responsible for compliance with the regulatory and statutory requirements relating to the facility.

"Regulatory authority" means the board or the department ~~as~~ if designated by the board.

"Resident" means an individual who is legally placed in, formally placed in, or admitted to a juvenile residential facility for supervision, care, training, or treatment on a ~~24-hour-per-day~~ 24-hour-per-day basis.

"Rest day" means a period of not less than 24 consecutive hours during which a staff person has no responsibility to perform duties related to supervision in a juvenile residential facility.

"Rules of conduct" means a ~~listing~~ list of a facility's rules or regulations that is maintained to inform residents and others of (i) the behavioral expectations of the behavior management program, ~~about~~ (ii) behaviors that are not permitted, and ~~about~~ (iii) the sanctions that may be applied when impermissible behaviors occur.

"Shelter care facility" means a nonsecure facility or an emergency shelter specifically approved to provide a range of services, as needed, on an individual basis not to exceed 90 days.

"Timeout" means a systematic behavior management technique program component designed to reduce or eliminate inappropriate or problematic behavior by having a staff require a resident to move to a specific location that is away from a source of reinforcement for a specific period of time or until the problem behavior has subsided.

"Tuberculosis risk assessment" means an assessment involving a series of questions designed to determine whether a person requires a tuberculosis screening.

"Tuberculosis screening" means the administration of a tuberculin skin test, chest x-ray, or interferon gamma release assay blood test to determine whether tuberculosis bacteria is present in an individual's body.

"Volunteer or intern" means an individual or group who voluntarily provides goods and services without competitive compensation.

"Vulnerable population" means a resident or group of residents who have been assessed as reasonably likely to be exposed to the possibility of being attacked or harmed, either physically or emotionally.

"Weapon" means (i) a pistol, revolver, or other weapon intended to propel a missile of any kind by action of an explosion; (ii) any dirk, bowie knife (except a pocket knife having a folding metal blade of less than three inches), switchblade knife, ballistic knife, machete, straight razor, slingshot, spring stick, metal knucks, or blackjack; (iii) nun chucks or other flailing instrument with two or more rigid parts that swing freely; and (iv) throwing star or oriental dart.

"Wilderness program" means a residential program that provides treatment and services to residents primarily through experiential wilderness expeditions.

"Written" means the required information is communicated in writing. ~~Such writing may be available~~ in either hard copy or ~~in~~ electronic form.

6VAC35-41-20. Applicability.

This chapter applies to group homes, ~~halfway houses, shelter care,~~ and other applicable juvenile residential facilities regulated by the board as authorized by statute. Parts I (6VAC35-41-10 et seq.) through VI (6VAC35-41-710 et seq.), ~~XII~~ X (6VAC35-41-1150 et seq.), and ~~XIII~~ XI (6VAC35-41-1290 et seq.) of this chapter apply to all juvenile residential facilities, with the exception of family-oriented group homes, governed by this regulation unless specifically excluded. Parts VII ~~(6VAC35-41-950)~~ (6VAC35-41-960) through ~~XI~~ (6VAC35-41-1120 et seq.) IX (6VAC35-41-1080 et seq.) of this chapter apply only to the specific programs or facilities as indicated.

6VAC35-41-30. ~~Previous regulations terminated.~~ (Repealed.)

~~This chapter replaces the Standards for the Interim Regulation of Children's Residential Facilities (6VAC35-51) and the Standards for Juvenile Residential Facilities (6VAC35-140) for the regulation of all juvenile residential facilities as defined herein. The Standards for the Interim Regulation of Children's Residential Facilities and the Standards for Juvenile Residential Facilities remain in effect for juvenile detention facilities and juvenile correctional centers, regulated by the board, until such time as the board adopts new regulations related thereto.~~

6VAC35-41-40. Certification.

A. The provider shall comply with the provisions of the Regulations Governing the Monitoring, Approval, and Certification of Juvenile Justice Programs and Facilities (6VAC35-20). The provider shall:

1. Demonstrate compliance with this chapter, other applicable regulations issued by the board, and applicable statutes and regulations; and
2. Implement approved plans of action to correct findings of noncompliance; ~~and~~

~~3. Ensure no noncompliance may pose any immediate and direct danger to residents.~~

B. The provider shall maintain the documentation necessary to demonstrate compliance with this chapter for a minimum of three years.

C. The current certificate shall be posted at all times in each facility in a place conspicuous to the public.

6VAC35-41-50. Age of residents.

A. Facilities shall admit residents only in compliance with the age limitations approved by the ~~board~~ director in establishing the facility's certification capacity, except as provided in subsection B of this section.

~~B. A facility shall not admit a resident who is above the age approved for certification.~~ A resident may remain in the facility above the ~~age of certified capacity~~ age only (i) to allow the resident to complete a program identified in the resident's individual service plan and (ii) if a discharge plan has been established. ~~This subsection does not apply to shelter care programs.~~

6VAC35-41-60. Relationship to the regulatory authority.

A. All reports and information as the regulatory authority may require to establish compliance with this chapter and other applicable regulations and statutes shall be submitted to or made available to the ~~regulatory authority~~ audit team leader.

B. A written report of any contemplated changes in operation that would affect the terms of the certificate or the continuing eligibility for certification shall be submitted to the regulatory authority. A change may not be implemented prior to approval by the regulatory authority.

6VAC35-41-70. Relationship with the department.

A. The director or the director's designee shall be notified within five working days of any significant change in administrative structure or newly hired facility administrator.

B. Any of the following that may be related to the health, safety, or human rights of residents shall be reported to the director or designee within 10 days: (i) lawsuits against the facility or its governing authority and (ii) settlements with the facility or its governing authority.

6VAC35-41-80. Variances and waivers.

A. ~~Board action may be requested by the facility administrator~~ A facility may request board action to relieve a facility from having to meet or develop a plan of action for the requirements of a specific section or subsection of this ~~regulation~~ chapter, provided the section or subsection is a noncritical regulatory requirement. The variance request may be granted either permanently or for a determined period of time, as provided in the Regulations Governing the Monitoring, Approval, and Certification of Juvenile Justice Programs and Facilities (6VAC35-20).

~~B. Any such~~ A variance may not be implemented prior to approval ~~of~~ by the board.

C. When the facility administrator has submitted a variance request to the director or the director's designee concerning a noncritical regulatory requirement, and board action has been requested formally by the director or the director's designee, the director may, but is not required to, grant a waiver temporarily excusing the facility from meeting the requirements of a specific section or subsection of this chapter. The waiver shall be subject to the requirements in 6VAC35-20-93.

6VAC35-41-90. Serious incident reports.

A. The following events shall be reported within 24 hours to: (i) the placing agency, (ii) the parent or legal guardian; or both, as applicable and appropriate, and (iii) the director or the director's designee:

1. ~~Any~~ A serious incident, accident, illness, or injury to the resident;
2. ~~Any~~ An overnight absence from the facility without permission;
3. ~~Any~~ A runaway;
4. ~~Any~~ A fire, hostage ~~or~~ situation, emergency situation, or natural disaster that ~~jeopardizes~~ may jeopardize the health, safety, and welfare of the residents; and
5. ~~Any~~ A suspected case of child abuse or neglect at the facility, on a facility event or excursion, or involving facility staff as provided in 6VAC35-41-100 (~~suspected child abuse or neglect~~).

~~The 24-hour reporting requirement may be extended~~ provider may extend the 24-hour reporting requirement when the emergency situation or natural disaster has made ~~such~~ such communication impossible (~~e.g., modes of communication are not functioning~~), such as when modes of communication are not functioning. In ~~such~~ these cases, notice shall be provided as soon as feasible thereafter.

B. The provider shall notify the director or the director's designee within 24 hours of ~~any events detailed in subsection A of this section~~ and all other situations required by the regulatory authority of which the facility has been notified.

C. ~~Any incident~~ Incidents involving the death of a resident shall be reported to the individuals specified in ~~subsections subsection A and B~~ subsection A and B of this section without undue delay. If an incident involving the death of a resident occurs at the facility, the facility shall notify the parents or legal guardians, as appropriate and applicable, of all residents in the facility provided ~~such~~ the notice does not violate any confidentiality requirements or jeopardize any law-enforcement or child protective services investigation or the prosecution of any criminal cases related to the incident.

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D. The facility shall (i) prepare and maintain a written report of the events listed in subsections A and B of this section and (ii) submit a copy of the written report to the director or the director's designee. The report shall contain the following information:

1. The date and time the incident occurred;
2. A brief description of the incident;
3. The action taken as a result of the incident;
4. The name of the person who completed the report;
5. The name or identifying information of the person ~~who made the report to~~ who, in accordance with subsection A of this section, notified the placing agency and ~~to~~ either the parent or legal guardian, as appropriate and applicable, and the manner in which the information was communicated; and
6. The name of or identifying information provided by the person to whom the report was made, including any law enforcement or child protective service personnel.

E. The resident's record shall contain a written reference (i) that an incident occurred and (ii) of all applicable reporting.

F. In addition to the requirements of this section, ~~any serious incident~~ incidents involving an allegation of child abuse or neglect at the facility, at a ~~facility-sponsored~~ facility-sponsored event, or involving facility staff shall be governed by 6VAC35-41-100 (~~suspected child abuse or neglect~~).

6VAC35-41-100. Suspected child abuse or neglect.

A. When there is a reason to suspect that a child is an abused or neglected child, the matter shall be reported immediately to the local department of social services; or to the state Department of Social Services toll-free child abuse and neglect hotline as required by § 63.2-1509 of the Code of Virginia and in accordance with ~~the~~ written procedures.

B. Written procedures shall be distributed to all staff members and shall ~~at a minimum~~ provide for the following:

1. Handling accusations against staff;
2. Reporting and documenting suspected cases of child abuse and neglect;
3. Cooperating during ~~any~~ an investigation; and
4. Measures to be taken to ensure the safety of the resident and the staff.

C. ~~Any case~~ Cases of suspected child abuse or neglect against a resident shall be reported and documented as required in 6VAC35-41-90 (~~serious incident reports~~). The resident's record shall contain a written reference that a report was made.

6VAC35-41-105. Reporting criminal activity.

A. Staff shall be required to report to the facility administrator for appropriate action all known criminal activity suspected to have occurred at the facility or at a facility-sponsored activity by residents or staff, including ~~but not limited to any~~ physical abuse, sexual abuse, or sexual harassment, ~~to the facility administrator for appropriate action.~~

B. The facility administrator, in accordance with written procedures, shall notify the appropriate persons or agencies, including law enforcement, child protective services, if applicable and appropriate, and the department ~~as appropriate and applicable~~, of suspected criminal violations by residents or staff. ~~Suspected criminal violations relating to the health and safety or human rights of residents shall be reported to the director or designee.~~

C. The facility shall assist and cooperate with the investigation of any such complaints and allegations ~~as necessary~~ subject to restrictions in federal or state law.

6VAC35-41-110. Grievance procedure.

A. ~~Written procedure~~ procedures shall ~~provide~~ require that residents are oriented to and have continuing access to a grievance procedure that provides for:

1. Resident participation in the grievance process with assistance from staff upon request;
2. Investigation of the grievance by an objective employee who is not the subject of the grievance;
3. Documented, timely responses to all grievances with the reasons for the decision, in accordance with facility procedures;
4. At least one level of appeal;
5. Administrative review of grievances;
6. Protection from retaliation or threat of retaliation for filing a grievance; and
7. Hearing of an emergency grievance Action within eight hours on grievances that pose an immediate risk of hardship or harm to a resident.

B. ~~Each resident~~ Residents shall be oriented to the grievance procedure in an age ~~or~~ and developmentally appropriate manner.

C. The grievance procedure shall ~~be~~ (i) be written in clear and simple language; (ii) provide the express definition of grievance as set out in 6VAC35-41-10; and ~~(iii)~~ (iii) be posted in an area easily accessible to residents and their parents and legal guardians.

D. Staff shall assist and work cooperatively with other employees in facilitating the grievance process.

6VAC35-41-120. Responsibilities of the provider or governing authority.

A. The provider shall ~~clearly~~ identify clearly and in writing the corporation, association, partnership, individual, or public agency that is the holder of the certificate (~~governing authority~~) and that serves as the facility's governing authority. Any change in the identity or corporate status of the governing authority or provider shall be reported to the director or the director's designee.

B. The governing authority shall appoint a facility administrator to whom it delegates the authority and responsibility for administrative direction of the facility.

C. A written decision-making plan shall be developed and implemented and shall provide for a staff person with the qualifications of a facility administrator to be designated to assume the temporary responsibility for the operation of the facility. ~~Each in the absence of the facility administrator.~~ The plan shall include an organizational chart.

D. The provider shall have a written statement of its (i) purpose, (ii) population served, and (iii) available services for each facility subject to this regulation.

E. Written procedures shall be developed and implemented to monitor and evaluate quality assurance in each facility. Improvements shall be implemented when indicated.

6VAC35-41-140. Participation of residents in human research.

A. ~~The provider shall have procedures, approved by its governing authority, to govern the review, approval, and monitoring of human research. Human research means any systematic investigation, including research development, testing, and evaluating, involving human subjects, including but not limited to a resident or his parents, guardians, or family members, that is designed to develop or contribute to generalized knowledge. Human research does not include statistical analysis of information readily available on the subject that does not contain any identifying information or research exempted by federal research regulations pursuant to 45 CFR 46.101(b). Providers that allow residents to participate in human research shall comply with the provisions of the Regulation Governing Juvenile Data Requests and Research Involving Human Subjects (6VAC35-170) and Chapter 5.1 (§ 32.1-162.16 et seq.) of Title 32.1 of the Code of Virginia. The testing of medicines or drugs for implementation or research is prohibited.~~

B. Information on residents shall be maintained as provided in 6VAC35-41-330 (~~maintenance of records~~), and all records and information related to the human research shall be kept confidential in accordance with § 16.1-300 of the Code of Virginia, 6VAC35-170, and other applicable laws and regulations.

C. The provider may require periodic progress reports of any research project and a formal final report of all completed research projects.

6VAC35-41-145. Operational procedures.

Current operational procedures shall be readily accessible to all staff.

6VAC35-41-150. Job descriptions.

A. There shall be a written job description for each position that, ~~at a minimum~~, includes the:

1. Job title or position;
2. Duties and responsibilities of the incumbent;
3. Job title or identification of the immediate supervisor; and
4. Minimum education, experience, knowledge, skills, and abilities required for entry-level performance of the job.

B. A copy of the job description shall be given to each person assigned to a position prior to assuming that position's duties.

6VAC35-41-160. Qualifications.

A. Facilities subject to (i) the rules and regulations of a governing authority or (ii) the rules and regulations of a local government personnel office shall develop written minimum entry-level qualifications in ~~accord~~ accordance with the rules and regulations of the supervising personnel authority. ~~Facilities not subject to rules and regulations of the governing authority or a local government personnel office shall follow the minimum entry level qualifications of the Virginia Department of Human Resource Management.~~

B. When services or consultations are obtained on a contractual basis, they shall be provided by professionally qualified personnel.

C. Each facility shall provide documentation ~~of contractual agreements or staff~~ that verifies every contractor's or employee's expertise to provide ~~educational services, counseling services, psychological services, medical services, or any other the~~ services needed to ~~serve~~ assist the residents in ~~accordance with the facility's program description as defined by the facility's criteria of admission, required by 6VAC35-41-730 B (application for admission).~~

6VAC35-41-165. Employee tuberculosis screening and follow-up.

A. On or before ~~the~~ an employee's start date at the facility ~~each, the~~ employee shall ~~submit evidence of freedom from have received a tuberculosis in a communicable form that is no older than 30 days~~ risk assessment, as evidenced by completion of an assessment form containing the elements found on the current assessment form published by the Virginia Department of Health. ~~The documentation shall indicate the screening results as to whether there is an absence of tuberculosis in a communicable form~~ risk assessment shall be no older than 30

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days and may be administered by health-trained personnel in a juvenile residential facility, provided the results of the assessment are interpreted by a physician, physician assistant, nurse practitioner, or registered nurse.

~~B. Each~~ In addition to the initial tuberculosis risk assessment required in subsection A of this section, each employee shall submit evidence of an annual ~~evaluation of freedom from risk assessment indicating the individual's risk of being exposed to~~ tuberculosis in a communicable form.

C. Employees shall undergo a subsequent tuberculosis screening ~~or evaluation, as applicable, in the following circumstances:~~ if indicated based on the results of the initial or annual tuberculosis risk assessment.

~~1. The employee comes into contact with a known case of infectious tuberculosis; or~~

~~2. The employee develops chronic respiratory symptoms of three weeks duration.~~

D. If an employee comes into contact with a known case of infectious tuberculosis or develops chronic respiratory symptoms of three weeks' duration, the employee shall consult the employee's local health department or other medical professional for additional screening.

E. Employees suspected of having tuberculosis in a communicable form shall not be permitted to return to work or have contact with staff or residents until a physician has determined that the individual does not have tuberculosis in a communicable form.

~~E. F.~~ Any active case of tuberculosis ~~developed~~ contracted by an employee ~~or a resident~~ shall be reported to the local health department in accordance with the requirements of the Commonwealth of Virginia State Board of Health Regulations for Disease Reporting and Control (12VAC5-90).

~~F. G.~~ Documentation of ~~any~~ the screening results shall be retained in a manner that maintains the confidentiality of information.

~~G. H.~~ The detection, diagnosis, prophylaxis, and treatment of pulmonary tuberculosis shall be performed consistent with the current requirements of the Virginia Department of Health's Division of Tuberculosis Prevention and Control and the federal Department of Health and Human Services Centers for Disease Control and Prevention.

6VAC35-41-180. Employee ~~and~~ volunteer background checks.

A. Except as provided in subsection B of this section, all persons who (i) accept a position of employment at, ~~(ii) volunteer on a regular basis and will be alone with a resident in the performance of their duties,~~ or ~~(iii) (ii)~~ provide contractual services directly to a resident on a regular basis and will be alone with a resident in the performance of their duties in a juvenile residential facility shall undergo the following

background checks, in accordance with § 63.2-1726 of the Code of Virginia, to ascertain whether there are criminal acts or other circumstances that would be detrimental to the safety of residents in the facility:

1. A reference check;
2. A criminal history check;
3. A fingerprint check with the Virginia State Police and Federal Bureau of Investigation ~~(FBI)~~;
4. A central registry check with Child Protective Services; and
5. A driving record check if applicable to the individual's job duties.

B. To minimize vacancy time when the fingerprint checks required by subdivision A 3 of this section have been requested, employees may be hired, pending the results of the fingerprint checks, provided:

1. All of the other applicable components of subsection A of this section have been completed;
2. The applicant is given written notice that continued employment is contingent on the fingerprint check results as required by subdivision A 3 of this section; and
3. Employees hired under this exception shall not be allowed ~~to be alone work directly with residents and may work with residents only when under the direct supervision of staff whose background checks have been completed,~~ until ~~such time as~~ all background checks are completed.

C. Documentation of compliance with this section shall be retained in the individual's personnel record as provided in 6VAC35-41-310 ~~(personnel records)~~.

D. Written procedures shall provide for the supervision of nonemployee persons, who are not subject to the provisions of subsection A of this section and who have contact with residents.

E. No juvenile residential facility regulated by the department shall hire for employment or contract services or allow a person to volunteer who has been convicted of any barrier crimes listed in § 19.2-392.02 of the Code of Virginia, subject to the exceptions permitted under § 63.2-1726 of the Code of Virginia.

6VAC35-41-190. Required initial orientation.

A. Before the expiration of the employee's seventh work day at the facility, each employee shall be provided with a basic orientation on the following:

1. The facility;
2. The population served;
3. The basic objectives of the program;

4. The facility's organizational structure;
5. Security, ~~population control, emergency preparedness, and evacuation procedures in accordance with 6VAC35-41-490 (emergency and evacuation procedures);~~
6. Emergency preparedness and evacuation procedures in accordance with 6VAC35-41-490;
7. The practices of confidentiality;
- ~~7-8.~~ 8. The residents' rights; and
- ~~8-9.~~ 9. The basic requirements of and competencies necessary to perform in the positions.

B. Prior to working with residents while not under the direct supervision of staff who have completed all applicable orientations and training, each direct care staff shall receive a basic orientation on the following:

1. The facility's program philosophy and services;
2. The facility's behavior management program;
3. The facility's behavior intervention procedures and techniques, including the use of least restrictive interventions and physical restraint;
4. The residents' rules of conduct and responsibilities;
5. The residents' disciplinary and grievance procedures;
6. Child abuse and neglect and mandatory reporting;
7. Standard precautions; and
8. Documentation requirements as applicable to the position's duties.

C. Volunteers shall be oriented in accordance with 6VAC35-41-300 (~~orientation and training for volunteers or interns~~).

6VAC35-41-200. Required initial training.

A. Each full-time and part-time employee and relief staff shall complete initial, comprehensive training that is specific to the individual's occupational class, is based on the needs of the population served, and ensures that the individual has the competencies to perform in the position.

1. Direct care staff shall receive at least 40 hours of training, inclusive of all training required by this section, in their first year of employment.
2. Contractors shall receive training required to perform their position responsibilities in a juvenile residential facility.

B. Within 30 days following the employee's start date at the facility or before the employee is responsible for the direct supervision of a resident, all direct care staff and staff who provide direct supervision of the residents while delivering services, with the exception of workers employed by contract to provide behavioral health or health care services, shall complete training in the following areas:

1. Emergency preparedness and response;
2. First aid and cardiopulmonary resuscitation, unless the individual is currently certified, with certification required as applicable to their duties;
3. The facility's behavior management program;
4. The residents' rules of conduct and the rationale for the rules;
5. The facility's behavior intervention procedures, with physical and mechanical restraint training required as applicable to their duties;
6. Child abuse and neglect;
7. Mandatory reporting;
8. Maintaining appropriate professional relationships;
9. Interaction among staff and residents;
10. Suicide prevention;
11. Residents' rights, including ~~but not limited to~~ the prohibited actions provided for in 6VAC35-41-560 (~~prohibited actions~~);
12. Standard precautions; and
13. Procedures applicable to the employees' ~~position~~ positions and consistent with their work profiles.

C. Employees who administer medication shall ~~have~~, have completed successfully, prior to such administration, ~~successfully completed~~ a medication training program approved by the Board of Nursing or be licensed by the Commonwealth of Virginia to administer medication.

~~D. Training shall be required by and provided as appropriate to the individual's job duties and in accordance with the provider's training plan.~~

~~E. D.~~ When an individual is employed by contract to provide services for which licensure by a professional organization is required, documentation of current licensure shall constitute compliance with this section.

~~E. E.~~ Volunteers and interns shall be trained in accordance with 6VAC35-41-300 (~~orientation and training for volunteers or interns~~).

6VAC35-41-210. Required retraining.

A. Each employee, relief staff, and contractor shall complete retraining that is specific to the individual's occupational class and the position's job description and addresses any professional development needs.

B. All staff shall complete an annual training refresher on the facility's emergency preparedness and response plan and procedures.

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C. All direct care staff and staff who provide direct supervision of the residents while delivering services, with the exception of workers who are employed by contract to provide behavioral health or health care services, shall complete ~~at least 40 hours of training annually that shall include training annual refresher training~~ in the following areas:

1. Suicide prevention;
2. Child abuse and neglect;
3. Mandatory reporting;
4. Residents' rights, including ~~but not limited to~~ the prohibited actions provided for in 6VAC35-41-560 (~~prohibited actions~~);
5. Standard precautions; and
6. Behavior intervention procedures.

D. Staff ~~required by their position to have~~ whose positions require certification in cardiopulmonary resuscitation and first aid shall receive training sufficient to maintain current certifications.

E. Employees who administer medication shall complete an annual refresher training on the administration of medication. The refresher training shall include a review of the components required in 6VAC35-41-1280.

F. Retraining shall (i) be required by and provided as appropriate to the individual's job duties, and (ii) address any needs identified by the individual and the supervisor, if applicable, ~~and (iii) be in accordance with the provider's training plan.~~ In addition to the training hours required in subsection C of this section, facilities shall ensure that staff receive at least 15 hours of additional training.

G. When an individual is employed by contract to provide services for which licensure by a professional organization is required, documentation of current licensure shall constitute compliance with this section.

H. Staff who have not timely completed required retraining shall not be allowed to have direct care responsibilities pending completion of the retraining requirements.

6VAC35-41-220. Written personnel procedures.

The provider shall have and implement ~~provider approved~~ provider-approved written personnel procedures and make these readily accessible to each staff member.

6VAC35-41-250. Notification of change in driver's license status.

Staff whose job responsibilities may involve transporting residents shall (i) maintain a valid driver's license and (ii) report to the facility administrator or designee any change in their driver's license status, including ~~but not limited to~~ suspensions, restrictions, and revocations.

6VAC35-41-260. Physical or mental health of personnel.

When an individual poses a ~~direct threat~~ significant risk of substantial harm to the health and safety of a resident, others at the facility, or the public or is unable to perform essential job-related functions, that individual shall be removed immediately from all duties involved in the direct care or direct supervision of residents. The facility may require a medical or mental health evaluation to determine the individual's fitness for duty prior to returning to duties involving the direct care or direct supervision of residents. The results of any medical information or documentation of any ~~disability-related~~ disability-related inquiries shall be maintained separately from the employee's personnel records maintained in accordance with 6VAC35-41-310 (~~personnel records~~). ~~For the purpose of this section a direct threat means a significant risk of substantial harm.~~

6VAC35-41-270. Definition of volunteers or interns. (Repealed.)

~~For the purpose of this chapter, volunteer or intern means any individual or group who of their own free will provides goods and services without competitive compensation.~~

6VAC35-41-280. Selection and duties of volunteers or interns.

A. ~~Any A~~ facility that uses volunteers or interns shall develop and implement written procedures governing their selection and use. ~~Such~~ The procedures shall provide for the objective evaluation of persons and organizations in the community who wish to associate with the residents.

B. Volunteers and interns shall have qualifications appropriate for the services provided.

C. The responsibilities of interns and individuals who volunteer on a regular basis shall be clearly defined in writing.

D. Volunteers and interns shall ~~neither~~ be responsible neither for the duties of direct care staff nor for the direct supervision of ~~the~~ residents.

6VAC35-41-290. Background checks for volunteers or interns.

A. Any individual who (i) volunteers on a regular basis or is an intern and (ii) will be alone with a resident in the performance of that position's duties shall be subject to the background check requirements ~~provided for~~ applicable to employees in 6VAC35-41-180 A (~~employee and volunteer background checks~~).

B. Documentation of compliance with the background check requirements shall be maintained for each intern and each volunteer for whom a background check is required. Such records shall be kept in accordance with 6VAC35-41-310 (~~personnel records~~).

C. A facility that uses volunteers or interns shall have procedures for supervising volunteers or interns, on whom background checks are not required or whose background checks have not been completed, and who have contact with residents.

D. No juvenile residential facility regulated by the department shall allow a person to volunteer on a regular basis and be alone with a resident in the performance of that position's duties if the person has been convicted of a barrier crime listed in § 19.2-392.02 of the Code of Virginia, subject to the exceptions permitted under § 63.2-1726 of the Code of Virginia.

6VAC35-41-300. Orientation and training for volunteers or interns.

A. Volunteers and interns shall be provided with a basic orientation on the following:

1. The facility;
2. The population served;
3. The basic objectives of the facility;
4. The facility's organizational structure;
5. ~~Security, population control, emergency, emergency preparedness, and evacuation procedures;~~
6. Emergency, emergency preparedness, and evacuation procedures;
7. The practices of confidentiality;
7. ~~8.~~ The residents' rights, including ~~but not limited to~~ the prohibited actions provided for in 6VAC35-41-560 (~~prohibited actions~~); and
8. ~~9.~~ The basic requirements of and competencies necessary to perform their duties and responsibilities.

B. Volunteers and interns shall be trained within 30 days from their start date at the facility in the following:

1. ~~Any procedures that are applicable to their duties and responsibilities; and~~
2. 1. Their duties and responsibilities in the event of a facility evacuation; and
2. Procedures applicable to their duties and responsibilities.

6VAC35-41-310. Personnel records.

A. Separate up-to-date written ~~or automated~~ personnel records shall be maintained on each (i) employee and, (ii) volunteer or intern, and (iii) contractor on whom a background check is required.

B. The records of each employee shall include:

1. A completed employment application form or other written material providing the individual's name, address,

phone number, and social security number or other unique identifier;

2. Educational background and employment history;
3. Documentation of required reference check;
4. ~~Annual performance evaluations;~~
5. ~~4.~~ Date of employment for each position held and date of separation;
6. ~~5.~~ Documentation of compliance with requirements of Virginia law regarding child protective services and criminal history background investigations;
7. ~~6.~~ Documentation of the verification of any educational requirements and of professional certification or licensure if required by the position;
8. ~~7.~~ Documentation of all training required by this chapter and any other training received by individual staff; and
9. ~~8.~~ A current job description.

C. If applicable, health care records, including reports of any required health examinations, shall be maintained separately from the other records required by this section.

D. The personnel records of volunteers or interns and ~~contractual service providers~~ contractors may be limited to documentation of compliance with the background checks as required by 6VAC35-41-180 (~~employee and volunteer background checks~~).

E. The personnel records required in subsection A of this section shall be maintained in a secure location and shall remain confidential from unauthorized access.

6VAC35-41-330. Maintenance of resident's records.

A. A separate written ~~or automated~~ case record shall be maintained for each resident that shall include all correspondence and documents received by the facility relating to the care of that resident and documentation of all case management services provided.

B. A separate health care record ~~may~~ shall be kept ~~maintained~~ on each resident. The resident's active health care records shall be readily accessible in case of emergency and shall be made available to authorized staff consistent with applicable state and federal statutes and regulations.

C. Each case record and health care record shall be kept (i) up to date, (ii) in a uniform manner, and ~~(ii)~~ (iii) confidential from unauthorized access.

D. Written procedures shall provide for the management of all ~~records, written and automated,~~ written records and shall describe confidentiality, accessibility, security, and retention of records pertaining to residents, including:

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1. Access, duplication, dissemination, and acquisition of information only to persons legally authorized according to federal and state laws;

2. ~~Facilities For facilities~~ using automated records ~~shall address procedures that include, the manner in which such records will be:~~ (i) protected from unauthorized access, including unauthorized Internet access; (ii) protected from loss; (iii) protected from unauthorized alteration; and (iv) backed up.

- ~~a. How records are protected from unauthorized access;~~
- ~~b. How records are protected from unauthorized Internet access;~~
- ~~c. How records are protected from loss;~~
- ~~d. How records are protected from unauthorized alteration; and~~
- ~~e. How records are backed up;~~

3. Security measures to protect records (i) from loss, unauthorized alteration, inadvertent or unauthorized access, or disclosure of information; and (ii) during transportation of records between service sites;

4. Designation of the person responsible for records management; and

5. Disposition of records ~~in the event if~~ the facility ceases ~~to operate operations.~~

E. Written procedure shall specify what information is available to the resident.

F. Active and closed written records shall be kept in secure locations or compartments that are accessible to authorized staff and shall be protected from unauthorized access, fire, and flood.

G. All case records shall be retained as governed by The Library of Virginia.

6VAC35-41-360. Equipment and systems inspections and maintenance.

A. ~~All safety~~ Safety, emergency, and communications equipment and systems, as identified by the facility administrator, shall be inspected, tested, and maintained by designated staff in accordance with the manufacturer's recommendations or instruction manuals or, absent such requirements, in accordance with a schedule that is approved by the facility administrator. Testing of such equipment and systems shall, ~~at a minimum,~~ be conducted at least quarterly. The facility administrator shall develop written procedures for the development, maintenance, and review of safety, emergency, and communications equipment and systems that the facility administrator identifies as critical, as well as the testing intervals for such equipment and systems.

B. Whenever safety, emergency, and communications equipment or ~~a system is found to be~~ systems are determined

defective, corrective action shall be taken to rectify the situation and to repair, remove, or replace the defective equipment or systems.

6VAC35-41-370. Heating and cooling systems and ventilation.

A. Heat shall be distributed in all rooms occupied by the residents such that a temperature no less than 68°F is maintained, unless otherwise mandated by state or federal authorities.

B. Air conditioning or mechanical ventilating systems, such as electric fans, shall be provided in all rooms occupied by residents when the temperature in those rooms exceeds 80°F unless otherwise mandated by state or federal authorities.

6VAC35-41-380. Lighting.

A. Sleeping rooms and activity areas in the facility shall provide natural lighting.

B. All areas within buildings shall be lighted for safety, and the lighting shall be sufficient for the activities being performed.

C. There shall be night lighting sufficient to observe residents.

D. Each facility shall have a plan for providing alternative lighting in case of emergencies.

E. Outside entrances and parking areas shall be lighted.

6VAC35-41-390. Plumbing and water supply; temperature.

A. Plumbing shall be maintained in operational condition, as designed.

B. An adequate supply of hot and cold running water shall be available at all times.

C. Precautions shall be taken to prevent scalding from running water. ~~Water~~ Hot water temperatures ~~should~~ shall be maintained at 100°F to 120°F.

6VAC35-41-400. Toilet facilities.

A. There shall be at least one bathtub or bathtub alternative in each facility.

B. There shall be at least one toilet, one hand basin, and one shower or tub for every eight residents for facilities certified before July 1, 1981.

C. There shall be one toilet, one hand basin, and one shower or tub for every four residents in any building constructed or structurally modified after July 1, 1981. Facilities certified after December 28, 2007, shall comply with the one-to-four ratio.

D. The maximum number of staff members on duty in the living unit shall be counted in determining the required number

of toilets and hand basins ~~when~~ if a separate bathroom is not provided for staff.

E. There shall be at least one mirror securely fastened to the wall at a height appropriate for use in each room where hand basins are located.

F. ~~When bathrooms are not~~ If a facility has a bathroom that is not designated for individual use:

1. ~~Each toilet~~ Toilets shall be enclosed for privacy, and
2. Bathtubs and showers shall provide visual privacy for bathing ~~by~~ through the use of enclosures, curtains, or other appropriate means.

G. Windows in bathrooms and dressing areas shall ~~provide~~ allow for privacy.

6VAC35-41-410. Sleeping areas rooms.

A. Males and females shall have separate sleeping ~~areas~~ rooms.

B. No more than four residents shall share a ~~bedroom or~~ sleeping ~~area~~ room.

C. Beds shall be at least three feet apart at the head, foot, and sides; and ~~double-decker bunk~~ beds shall be at least five feet apart at the head, foot, and sides.

D. Sleeping ~~quarters~~ rooms in facilities established, constructed, or structurally modified after July 1, 1981, shall have:

1. At least 80 square feet of floor area in a bedroom accommodating one person;
2. At least 60 square feet of floor area per person in rooms accommodating two or more persons; and
3. Ceilings with a primary height at least 7-1/2 feet in height exclusive of protrusions, duct work, or dormers.

E. Mattresses shall be fire retardant as evidenced by documentation from the manufacturer except in buildings equipped with an automated sprinkler system as required by the Virginia Uniform Statewide Building Code (13VAC5-63).

F. Each resident shall be assigned drawer ~~space~~ and closet space; or ~~their~~ equivalent; ~~that is~~ storage space for storage of clothing and personal belongings. The storage space shall be accessible to from the sleeping area for storage of clothing and personal belongings room.

G. Windows in sleeping ~~areas~~ rooms and dressing areas shall ~~provide~~ allow for privacy.

H. ~~Every sleeping area~~ Sleeping rooms shall have a door that may be closed for privacy or quiet and ~~this door shall~~ that may be opened readily ~~opened~~ in case of a fire or other emergency.

6VAC35-41-440. Smoking prohibitions.

Smoking shall be prohibited in living areas and in areas where residents participate in programs. Residents shall be prohibited from possessing, purchasing, using, or distributing tobacco products or nicotine vapor products. Tobacco products, including cigarettes, cigars, smokeless tobacco, pipe tobacco, bidis, and wrappings and vapor products, such as electronic cigarettes, electronic cigars, electronic cigarillos, electronic pipes, or similar products or devices shall not be used by staff, contractors, volunteers, interns, or visitors in any areas of the facility or its premises.

6VAC35-41-450. Space utilization.

A. Each facility shall provide ~~for~~ the following:

1. A living room;
2. An indoor recreation area ~~with appropriate recreation materials;~~
3. An outdoor recreation area;
4. A dining area, where meals are served, that is equipped with tables and benches or chairs;
5. A visitation area that permits informal communication between residents and visitors, including the opportunity for physical contact, in accordance with written procedures;
6. Kitchen facilities and equipment for the preparation and service of meals with any walk-in refrigerators or freezers equipped to permit emergency exits;
7. Space and equipment for laundry, if laundry is done at the facility;
8. Space for the storage of items such as first aid equipment, household supplies, recreational equipment, luggage, out-of-season clothing, and other materials; and
9. Space for administrative activities including, as appropriate to the program, confidential conversations and the storage of records and materials.

B. Spaces or areas may be ~~interchangeably~~ utilized for multiple purposes but shall be in functional condition for the designated purposes.

6VAC35-41-460. Maintenance of the buildings and grounds.

A. The interior and exterior of all buildings and grounds shall be safe, maintained, and reasonably free of clutter and rubbish. This includes, but is not limited to, requirement applies to all areas of the facility and to items within the facility, including (i) required locks, mechanical devices, indoor and outdoor equipment, and furnishings; and (ii) all areas where residents, staff, and visitors may reasonably may be expected to have access.

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B. All buildings shall be reasonably free of stale, musty, or foul odors.

C. Buildings shall be kept reasonably free of flies, roaches, rats, and other vermin.

6VAC35-41-470. Animals on the premises.

A. ~~Animals maintained on the premises shall be housed at a reasonable distance from sleeping, living, eating, and food preparation areas, as well as a safe distance from water supplies. be:~~

1. ~~Housed a reasonable distance from eating and food preparation areas, as well as a safe distance from water supplies;~~
2. ~~Tested, inoculated, and licensed as required by law; and~~
3. ~~Provided with clean sleeping areas and adequate food and water.~~

~~B. Animals maintained on the premises shall be tested, inoculated, and licensed as required by law.~~

~~C. The premises shall be kept reasonably free of stray domestic animals.~~

~~D. Pets shall be provided with clean sleeping areas and adequate food and water.~~

6VAC35-41-490. Emergency and evacuation procedures.

A. The provider shall develop a written emergency preparedness and response plan for each facility. The plan shall address:

1. Documentation of contact with the local emergency coordinator to determine (i) local disaster risks, (ii) communitywide plans to address different disasters and emergency situations, and (iii) assistance, if any, that the local emergency management office will provide to the facility in an emergency;
2. Analysis of the provider's capabilities and potential hazards, including natural disasters, severe weather, fire, flooding, work place violence or terrorism, missing persons, severe injuries, or other emergencies that would disrupt the normal course of service delivery;
3. Written emergency management procedures outlining specific responsibilities for provision of administrative direction and management of response activities; coordination of logistics during the emergency; communications; life safety of employees, contractors, interns, volunteers, visitors and residents; property protection; community outreach; and recovery and restoration;
4. Written emergency response procedures for assessing the situation; protecting residents, employees, contractors, interns, volunteers, visitors, equipment and vital records; and restoring services. Emergency procedures shall address:

a. Communicating with employees, contractors, and community responders;

b. Warning and ~~notification of~~ notifying residents;

c. Providing emergency access to secure areas and opening locked doors;

d. Conducting evacuations to emergency shelters or alternative sites and accounting for all residents;

e. Relocating residents, if necessary;

f. Notifying parents and legal guardians, as applicable and appropriate;

g. Alerting emergency personnel and sounding alarms;

h. Locating and shutting off utilities when necessary; and

i. ~~Providing for a planned, personalized means of effective egress evacuation for residents who use wheelchairs, crutches, canes, or other mechanical devices for assistance in walking individuals with disabilities or who require special accommodations, such as vision-impaired, hearing-impaired, or nonambulatory individuals.~~

5. Supporting documents that would be needed in an emergency, including emergency call lists, building and site maps necessary to shut off utilities, designated escape routes, and ~~list~~ lists of major resources such as local emergency shelters; and

6. Schedule for testing the implementation of the plan and conducting emergency preparedness drills.

B. The provider shall develop emergency preparedness and response training for all employees to ensure they are prepared to implement the emergency preparedness plan in ~~the event of~~ an emergency. ~~Such~~ The training shall include the employees' responsibilities for:

1. Alerting emergency personnel and sounding alarms;
2. Implementing evacuation procedures, including evacuation of residents with special needs (~~i.e., deaf, blind, nonambulatory~~); or who require special accommodations;
3. Using, maintaining, and operating emergency equipment;
4. Accessing emergency information for residents including medical information; and
5. Utilizing community support services.

C. Contractors ~~and~~, volunteers, and interns shall be oriented in their responsibilities in implementing the emergency preparedness plan in the event of an emergency.

D. The provider shall review and document the review of the emergency preparedness plan annually and make necessary revisions. ~~Such~~ The revisions shall be communicated to employees, contractors, interns, and volunteers and incorporated into training for employees, contractors, interns, and volunteers and orientation of residents to services.

~~E. In the event of~~ If a disaster, fire, emergency, or ~~any~~ other condition that may jeopardize the health, safety, and welfare of residents; occurs, the provider shall take appropriate action to protect the health, safety, and welfare of the residents and to remedy the ~~conditions~~ condition as soon as possible. The provider first shall respond and stabilize the disaster or emergency. After the disaster or emergency is stabilized, the provider shall report the disaster or emergency in accordance with 6VAC35-41-90.

~~F. In the event of a disaster, fire, emergency, or any other condition that may jeopardize the health, safety, and welfare of residents, the provider should first respond and stabilize the disaster or emergency. After the disaster or emergency is stabilized, the provider shall report the disaster or emergency in accordance with 6VAC35-41-90 (serious incident reports).~~

~~G. F.~~ Floor plans showing primary and secondary means of emergency ~~exiting~~ exits shall be posted on each floor in locations where they ~~can be seen~~ are easily by visible to staff and residents.

H. G. The responsibilities of the residents in implementing the emergency procedures shall be communicated to all residents within seven days following admission or a substantive change in the procedures.

~~I. At H.~~ The facility shall conduct at least one evacuation drill (the simulation of the facility's emergency procedures) shall be conducted in which its emergency and evacuation procedures are simulated each month in each building occupied by residents. During any three consecutive calendar months, at least one evacuation drill shall be conducted during each shift.

~~J. I.~~ Evacuation drills shall include, ~~at a minimum~~:

1. Sounding of emergency alarms;
2. Practice in evacuating buildings;
3. Practice in alerting emergency authorities;
4. Simulated use of emergency equipment; and
5. Practice in accessing resident emergency information.

~~K. J.~~ A record shall be maintained for each evacuation drill and shall include the following:

1. Buildings in which the drill was conducted;
2. Date and time of the drill;
3. Amount of time taken to evacuate the buildings;
4. Specific problems encountered;
5. Staff tasks completed including:
 - a. Head count, and
 - b. Practice in notifying emergency authorities; and
6. The name of the staff members responsible for conducting and documenting the drill and preparing the record.

~~L. K.~~ The facility shall assign one staff member who shall ensure that all requirements regarding the emergency preparedness and response plan and the evacuation drill program are met.

6VAC35-41-510. Searches of residents.

A. Each facility that conducts searches shall have procedures that provide that all searches shall be subject to the following:

1. Searches of residents' persons shall be conducted only for the purposes of maintaining facility security and controlling contraband ~~while protecting, and only in a manner that protects~~ the dignity of the resident.
2. Searches ~~are~~ shall be conducted only by personnel who are trained and authorized to conduct ~~such~~ searches; and
3. The resident shall not be touched any more than is necessary to conduct the search.

B. Facilities that do not conduct searches of residents shall have a procedure prohibiting them.

C. ~~Pat-down~~ Pat-down and frisk searches shall be conducted by trained personnel of the same sex as the resident being searched, except in emergencies.

~~D. Strip searches and visual inspections of the vagina and anal cavity areas shall only be permitted (i) if ordered by a court; (ii) if conducted by law enforcement personnel acting in his official capacity; or (iii) if the facility obtains the approval of the regulatory authority to conduct such searches. A facility that conducts such searches shall have a procedure that provides that the searches shall be subject to the following:~~

1. ~~The search shall be performed by personnel of the same sex as the resident being searched;~~
2. ~~The search shall be conducted in an area that ensures privacy; and~~
3. ~~Any witness to the search shall be of the same sex as the resident.~~

~~E. Manual and~~ D. Strip searches and visual, manual, or instrumental searches of the anal cavity or vagina shall be prohibited unless court ordered prohibited.

6VAC35-41-520. Telephone access and emergency numbers.

A. There shall be at least one continuously operable, nonpay telephone accessible to staff in each building in which residents sleep or participate in programs.

B. There shall be an emergency telephone number where a staff person may be ~~immediately~~ immediately, 24 hours a day and seven days per week.

C. An emergency telephone number shall be provided to residents and the adults responsible for their care when a

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resident is away from the facility and not under the supervision of direct care staff or law-enforcement officials.

6VAC35-41-540. Weapons.

A. The possession, use, and storage of weapons in facilities or on the premises where residents are reasonably expected to have access are prohibited except when specifically authorized by statutes or regulations or provided in subsection B of this section. ~~For the purpose of this section, weapons shall include but will not be limited to (i) any pistol, revolver, or other weapon intended to propel a missile of any kind by action of an explosion; (ii) any dirk, bowie knife, except a pocket knife having a folding metal blade of less than three inches, switchblade knife, ballistic knife, machete, straight razor, slingshot, spring stick, metal knucks, or blackjack; (iii) nunchucks or other flailing instrument with two or more rigid parts that swing freely; and (iv) throwing star or oriental dart.~~

B. Weapons shall be permitted if they are in the possession of a licensed security personnel or law-enforcement officer while in the course of his duties.

6VAC35-41-550. Transportation.

A. ~~It~~ The facility shall be the responsibility of the facility to have responsible for having transportation available or ~~to make~~ making the necessary arrangements for routine and emergency transportation.

B. ~~There shall be~~ The facility shall have written safety rules for transportation of residents and, if applicable, for the use and maintenance of vehicles.

C. If a person or entity other than the juvenile residential facility assumes custody of the resident for purposes of transportation, and the facility has flagged the resident for additional monitoring due to (i) a recent suicide attempt, (ii) recent suicidal ideations, or (iii) special medical needs, the facility shall:

1. Provide the person or entity responsible for transporting the resident, except the resident's parent or guardian, with a department-approved form that identifies pertinent information known to the juvenile residential facility concerning the need for additional monitoring, provided the information reasonably could be considered necessary for the resident's safe transportation and supervision, and

2. Notify the transporting party that such information must remain confidential in accordance with applicable laws, rules, and regulations regarding confidentiality of juvenile records.

D. The facility shall be excused from meeting the requirements of subsection C of this section if an emergency renders completion of the form impracticable or infeasible.

~~C.~~ E. The facility shall have a procedure for the verification of appropriate licensure for staff whose duties involve transporting residents.

6VAC35-41-560. Prohibited actions.

The following actions are prohibited:

1. Discrimination in violation of the Constitution of the United States, the Constitution of the Commonwealth of Virginia, and state and federal statutes and regulations;
2. Deprivation of drinking water or food necessary to meet a resident's daily nutritional needs, except as ordered by a licensed physician for a legitimate medical purpose and documented in the resident's record;
3. Denial of contacts and visits with the resident's attorney, a probation officer, the department, the regulatory authority, a supervising agency representative, or representatives of other agencies or groups as required by applicable statutes or regulations;
4. Bans on contacts and visits with family or legal guardians, except as permitted by other applicable state regulations or by order of a court of competent jurisdiction;
5. ~~Any action that is~~ Actions that are humiliating, degrading, or abusive, including ~~but not limited to~~ physical abuse, sexual abuse, and sexual harassment;
6. Corporal punishment, which is administered through the intentional ~~inflicting~~ infliction of pain or discomfort to the body through actions, such as, ~~but not limited to~~ (i) striking or hitting with any part of the body or with an implement; (ii) pinching, pulling, or shaking; or (iii) ~~any similar action~~ actions that normally ~~inflicts~~ inflict pain or discomfort;
7. Subjection to unsanitary living conditions;
8. Denial of opportunities for bathing or access to toilet facilities, except as ordered by a licensed physician for a legitimate medical purpose and documented in the resident's record;
9. Denial of health care;
10. Deprivation of appropriate services and treatment;
11. Application of aversive stimuli, except as permitted pursuant to other applicable state regulations ~~Aversive stimuli means any physical forces (e.g., sound, electricity, heat, cold, light, water, or noise) or substances (e.g., hot pepper, pepper sauce, or pepper spray) measurable in duration and intensity that when applied to a resident are noxious or painful to the individual;~~
12. Administration of laxatives, enemas, or emetics, except as ordered by a licensed physician or poison control center for a legitimate medical purpose and documented in the resident's record;
13. Deprivation of opportunities for sleep or rest, except as ordered by a licensed physician for a legitimate medical purpose and documented in the resident's record;

- 14. Placement of a resident ~~alone~~ in a locked room or a secured area where the resident is prevented from leaving;
- 15. Use of mechanical restraints (~~e.g.~~, handcuffs, waist chains, leg irons, disposable plastic cuffs, leather restraints, or a restraint ~~chair~~) chairs;
- 16. Use of pharmacological restraints; and
- 17. Other constitutionally prohibited actions.

6VAC35-41-565. Vulnerable population.

A. ~~The~~ Immediately upon a resident's admission, the facility shall implement a procedure for ~~assessing~~ determining whether a resident is a member of a vulnerable population. Factors including the resident's height and size, English proficiency, sexual orientation, history of being bullied, or history of self-injurious behavior may be considered in determining whether a resident is a member of a vulnerable population. The resident's own views with respect to the resident's safety shall be considered.

B. If the ~~assessment~~ facility determines a resident is a member of a vulnerable population, the facility shall implement any identified additional precautions such as heightened need for supervision, additional safety precautions, or separation from certain other residents. The facility shall consider on a case-by-case basis whether a placement would ensure the resident's health and safety and whether the placement would present management or security problems.

C. ~~For the purposes of this section, vulnerable population means a resident or group of residents who have been assessed to be reasonably likely to be exposed to the possibility of being attacked or harmed, either physically or emotionally (e.g., very young residents; residents who are small in stature; residents who have limited English proficiency; residents who are gay, lesbian, bi-sexual, transgender, or intersex; residents with a history of being bullied or of self-injurious behavior).~~

6VAC35-41-570. Residents' mail.

A. A resident's incoming or outgoing mail may be delayed or withheld only in accordance with this section or as permitted by other applicable regulations or by order of a court.

B. In accordance with written procedures, staff may open and inspect residents' incoming and outgoing nonlegal mail, including electronic nonlegal mail, for contraband. When based on legitimate facility interests of order and security, nonlegal mail, including electronic nonlegal mail, may be read, censored, or rejected. In accordance with written procedures, the resident shall be notified, as appropriate, when incoming or outgoing letters, including electronic letters, are withheld ~~in part or in full~~ redacted.

C. In the presence of the resident recipient and in accordance with written procedures, staff may open to inspect for contraband, but shall not read, legal mail. ~~Legal mail shall mean any written material that is sent to or received from a~~

~~designated class of correspondents, as defined in procedures, which shall include any court, legal counsel, administrators of the grievance system, or administrators of the department, facility, provider, or governing authority.~~

D. Staff shall not read mail, including electronic mail, addressed to parents, immediate family members, legal ~~guardian, guardian~~ guardians, guardians ad litem, counsel, courts, officials of the committing authority, public ~~official~~ officials, or grievance administrators unless permission has been obtained from a court or the facility administrator has determined that there is a reasonable belief that the security of a facility is threatened. When so authorized, staff may read such mail only in the presence of a witness and in accordance with written procedures.

E. Except as otherwise provided, incoming and outgoing letters shall be held for no more than 24 hours and packages for no more than 48 hours, excluding weekends and holidays.

F. Cash, stamps, and other ~~specified~~ specified in written procedures may be held for the resident.

G. Upon request, each resident shall be given postage and writing materials for all legal ~~correspondence~~ mail and at least two other letters per week.

H. Residents shall be permitted to correspond at their own expense with any person or organization, provided ~~such~~ the correspondence does not pose a threat to facility order and security and is not being used to violate or to conspire to violate the law.

I. First class letters and packages received for residents who have been transferred or released shall be forwarded: to the resident's last known address or forwarding address or returned to sender.

J. Written procedure governing correspondence of residents shall be made available to all staff and residents ~~and shall be~~, reviewed annually, and updated as needed.

6VAC35-41-590. Visitation.

A. Residents shall be ~~permitted to~~ given reasonable visiting privileges, consistent with written procedures, that take into account (i) the need for security and order, (ii) the behavior of individual residents and visitors, (iii) the importance of helping the resident maintain strong family and community ties, and (iv) the welfare of the resident, ~~and (v) whenever~~. Whenever possible, the facility shall provide flexible visiting hours.

B. Copies of the written visitation procedures shall be made available to the parents, ~~or legal guardians~~, when ~~appropriate, legal guardians, appropriate, and the resident, and other interested persons important to the~~ resident no later than the time of admission ~~except that when~~. When parents or legal guardians do not participate in the admission process, however, visitation procedures shall be mailed, to them, either electronically or via first class mail, ~~to them~~ by the close of the

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next business day after admission, unless a copy has already been provided to the individual.

6VAC35-41-600. Contact with attorneys, courts, and law enforcement.

A. Residents shall have uncensored, confidential contact with their legal representative in ~~writing, as provided for writing~~ subject to the exceptions provided in 6VAC35-41-570 (~~residents' mail~~), by telephone, or in person.

B. Residents shall not be denied access to the courts.

C. Residents shall not be required to submit to questioning by ~~law enforcement~~, law-enforcement, though they may do so voluntarily.

1. Residents' consent shall be obtained prior to any contact with law enforcement.

2. No employee may coerce a resident's decision to consent to have contact with law enforcement.

3. Each facility shall have procedures for establishing a resident's consent to ~~any such contact~~ questioning by law-enforcement and for documenting the resident's decision. The procedures may ~~provide for~~ require (i) notification of the parent or legal guardian, as appropriate and applicable, prior to the commencement of questioning; and (ii) opportunity, at the resident's request, to confer with an attorney, parent or guardian, or other person in ~~making the decision~~ deciding whether to consent to questioning.

6VAC35-41-610. Personal necessities and hygiene.

A. At admission, each resident shall be provided the following:

1. An adequate supply of personal necessities for hygiene and grooming;

2. A separate bed equipped with a mattress, a pillow, blankets, bed linens, and, if needed, a waterproof mattress cover; and

3. Individual washcloths and towels.

B. At the time of issuance, all items shall be clean and in good repair.

C. Personal necessities shall be replenished as needed.

D. The washcloths, towels, and bed linens shall be cleaned or changed, ~~at a minimum~~, once every seven days and more ~~often~~, often if needed. Bleach or another sanitizing agent approved by the federal Environmental Protection Agency to destroy bacteria shall be used in the laundering of ~~such linens and table~~ bed linens.

E. Staff shall promote good personal hygiene of residents by monitoring and supervising hygiene practices each day and by providing instruction when needed.

6VAC35-41-620. Showers.

Residents shall have the opportunity to shower daily, except when ~~a declaration of a state of emergency due to drought conditions has been issued by the Governor or water restrictions have been issued by the locality. Under these exceptional circumstances showers shall be restricted as determined by the facility administrator after consultation with local health officials. The alternate schedule implemented under these exceptional circumstances shall account for cases of medical necessity related to health concerns and shall be in effect only until such time as the water restrictions are lifted there is a documented emergency.~~

6VAC35-41-630. Clothing.

A. Provision shall be made for each resident to have an adequate supply of clean and size-appropriate clothing and shoes for indoor and outdoor wear.

B. Clothes and shoes shall be similar in style to those generally worn by individuals of the same age in the community who are engaged in similar activities.

C. Residents shall have the opportunity to participate in the selection of their clothing.

~~D. Residents shall be allowed to take personal clothing when leaving the facility.~~

6VAC35-41-650. Nutrition.

A. Each resident, except as provided in subsection B of this section, shall be provided a daily diet that (i) consists of at least three nutritionally balanced meals and an evening snack, (ii) includes an adequate variety and quantity of food for the age of the resident, and (iii) meets any applicable federal nutritional requirements.

B. Special diets or alternative dietary schedules, as applicable, shall be provided in the following circumstances: (i) when prescribed by a physician or (ii) when necessary to observe the established religious dietary practices of the resident. In such circumstances, the meals shall meet ~~any~~ applicable federal nutritional requirements.

C. Menus of actual meals served shall be kept on file ~~for at least six months.~~ in accordance with applicable federal requirements.

D. Staff who eat in the presence of the residents shall be served the same meals as the residents unless a special diet has been prescribed by a physician for the staff or residents or the staff or residents are observing established religious dietary practices.

E. There shall not be more than 15 hours between the evening meal and breakfast the following day, except when the facility administrator approves an extension of time between meals on weekends and holidays. When an extension is granted on a

weekend or holiday, there shall never be more than 17 hours between the evening meal and breakfast.

F. Providers shall ~~assure~~ ensure that food is available to residents who for documented medical or religious reasons need to eat breakfast before the 15 or 17 hours have expired.

G. The provisions of this section shall not apply to independent living programs, which shall be subject to the provisions applicable to nutrition in 6VAC35-41-1000.

6VAC35-41-660. School enrollment and study time.

A. The facility shall make all reasonable efforts to enroll each resident of compulsory school attendance age in an appropriate educational program within five school business days after admission and in accordance with § 22.1-254 of the Code of Virginia and Regulations Governing the Reenrollment of Students Committed to the Department of Juvenile Justice (8VAC20-660), if applicable. Documentation of the enrollment and any attempt to enroll the resident shall be maintained in the resident's record.

B. ~~Each provider~~ Providers shall develop and implement written procedures to ensure that each resident has adequate study time.

6VAC35-41-680. Recreation.

A. The provider shall have a written description of its recreation program that describes activities that are consistent with the facility's total program and with the ages, developmental levels, interests, and needs of the residents ~~that includes.~~ The recreation program shall include:

1. Opportunities for individual and group activities, both structured and unstructured;
2. Use of available community recreational resources and facilities;
3. Scheduling of activities so that they do not conflict with meals, religious services, educational programs, or other regular events; ~~and~~
4. Regularly scheduled indoor and outdoor recreational activities that are structured to develop skills and ~~attitudes.~~ pro-social attitudes; and
5. Appropriate recreational materials for indoor and outdoor use.

B. The provider shall ~~develop and implement written procedures to ensure~~ protect the safety of residents participating in recreational activities ~~that include~~ by ensuring that:

1. ~~How activities will be~~ Activities are directed and supervised by individuals knowledgeable in the safeguards required for the activities;

2. ~~How residents~~ Residents are assessed for suitability ~~for an activity and the supervision provided;~~ and appropriately supervised;

3. ~~How safeguards~~ Safeguards for ~~water-related~~ water-related activities ~~will be~~ are provided, including ensuring that a certified ~~life guard~~ lifeguard supervises all swimming activities and that the provider attempts to determine the resident's swimming ability by consulting the swimmer's parent or legal guardian; and

4. All participants are equipped and clothed appropriately and wearing safety gear appropriate for the activity in which the resident is engaging.

C. For ~~all~~ overnight recreational trips away from the facility, the provider shall document trip planning to include:

1. A supervision plan for the entire duration of the activity including awake and sleeping hours that meets the specific staffing ratio requirements set out in 6VAC35-41-930;
2. A plan for safekeeping and distribution of medication;
3. An overall emergency, safety, and communication plan for the activity, including resident accountability, prompt evacuation, and identification of emergency numbers ~~of for facility administration~~ administrators and outside emergency services;
4. Staff training and experience requirements for each activity;
5. Resident preparation for each activity;
6. A plan to ensure that ~~all the~~ the necessary equipment ~~for the and gear that will be used in connection with the specified activity is certified, if required; in good repair; in operable condition; and age, body-size, and otherwise appropriate for the activity;~~
7. A trip schedule giving addresses and phone numbers of locations to be visited and how the location was chosen and evaluated;
8. A plan to evaluate residents' physical health throughout the activity and to ensure that the activity is conducted within the boundaries of the resident's capabilities, dignity, and respect for self-determination;
9. A plan to ensure that a certified ~~life guard~~ lifeguard supervises all swimming activities in which residents participate; and
10. Documentation of any variations from trip plans and reason for the variation.

D. ~~All~~ For overnight recreational trips away from the facility, the facility administrator shall ensure that:

1. A telephone is located in each area where residents sleep or participate in programs;

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2. First-aid kits are accessible at all times and contain supplies that are appropriate for the activity;

3. A separate bed, bunk, cot, or sleeping bag is available for each resident and staff member attending the overnight trip; and

4. Bedding is clean, dry, sanitary, and in good repair.

E. The facility shall obtain written permission from each resident's parent or legal guardian for all overnight out-of-state or out-of-country recreational trips require written permission from each resident's legal guardian. trips. Documentation of the written permission shall be kept maintained in the resident's case record.

F. The provisions of this section shall not apply to wilderness programs, which shall be subject to the provisions of 6VAC35-41-1010 through 6VAC35-41-1070.

6VAC35-41-690. Residents' funds.

A. The provider shall implement written procedures for safekeeping and for recordkeeping of ~~any~~ money that belongs or is provided to residents, including allowances, if applicable.

B. A resident's personal funds, including any allowance or earnings, shall be used for the resident's benefit, for payments ordered by a court, or to pay restitution for damaged property or personal injury as determined by disciplinary procedures.

6VAC35-41-700. Fundraising.

The provider shall not use residents in its fundraising activities without the written permission of both the parent or legal guardian, as appropriate and applicable, and the consent of residents.

6VAC35-41-710. Placement pursuant to a court order.

A. When a resident is placed in a facility pursuant to a court order, the requirements of the following ~~requirements shall be met by maintaining a copy of a court order in the resident's case record~~ provisions of this chapter do not apply:

1. 6VAC35-41-730 (~~application for admission~~).
2. 6VAC35-41-740 (~~admission procedures~~).
3. 6VAC35-41-750 (~~written placement agreement~~).
4. 6VAC35-41-780 (~~emergency admissions~~).
5. 6VAC35-41-810 (~~discharge procedures~~).

B. The facility shall maintain a copy of the court order in the resident's case records instead of the documentation required by the regulatory sections enumerated in subsection A of this section.

6VAC35-41-720. Readmission to a shelter care program.

A. When a resident is readmitted to a shelter care facility within 30 days from discharge, the requirements of the

following ~~requirements shall~~ provisions of this chapter do not apply:

1. 6VAC35-41-730 (~~application for admission~~).

2. 6VAC35-41-740 (~~admission procedures~~).

B. When a resident is readmitted to a shelter care facility within 30 days from discharge, the facility shall:

1. Review and update all information on the face sheet as provided in 6VAC35-41-340 (~~face sheet~~);

2. Complete a health screening in accordance with 6VAC35-41-1200 (~~health screening at admission~~);

3. Complete the required admission and orientation process as provided in 6VAC35-41-760 (~~admission~~); and

4. Update in the case record any other information regarding the resident that has changed since discharge.

6VAC35-41-730. Application for admission.

A. Except for placements pursuant to a court order or resulting from a transfer between residential facilities located in Virginia and operated by the same governing authority, all admissions shall be based on evaluation of an application for admission.

B. Providers shall develop ~~and fully complete~~, an application for admission and ensure that the referral source has fully completed the application prior to a resident's acceptance for care, an application for admission that is designed to compile information necessary to determine. The provider shall ensure that the completed application for each admitted resident is placed in the resident's case record.

C. The application for admission shall consist of information necessary to determine:

1. The suitability of the prospective resident's admission;

2. The educational needs of the prospective resident;

~~3.~~ 3. The mental health, emotional, and psychological needs of the prospective resident;

~~4.~~ 4. The physical health needs, including the immunization needs, of the prospective resident;

~~5.~~ 5. The protection needs of the prospective resident;

~~5. The suitability of the prospective resident's admission;~~

6. The behavior support needs of the prospective resident; and

7. Information necessary to develop a service plan and a behavior support plan.

~~C. Each facility~~ D. Providers shall develop and implement written procedures to assess each prospective resident as part of the application process to ensure that:

1. The needs of the prospective resident can be addressed by the facility's services;
2. The facility's staff are trained to meet the prospective resident's needs; and
3. The admission of the prospective resident would not pose ~~any~~ a significant risk to (i) the prospective resident or (ii) the facility's residents or staff.

6VAC35-41-740. Admission procedures.

A. Except for placements pursuant to a court order, the facility shall admit only those residents who are determined to be compatible with the services provided through the facility.

B. The facility's written criteria for admission shall include the following:

1. A description of the population to be served;
2. A description of the types of services offered;
3. Intake and admission procedures;
4. Exclusion criteria ~~to define those that identify~~ behaviors or problems ~~that for which the facility does not have the~~ lacks the experienced or trained staff ~~with experience or training necessary~~ to manage the behaviors; and
5. Description of how educational services will be provided to the population being served.

6VAC35-41-750. Written placement agreement.

A. Except for placements pursuant to a court order ~~or when a resident admits himself to a shelter care facility~~, each resident's case record shall contain, prior to a routine planned admission, a completed placement agreement signed by a facility representative and the parent, legal guardian, or placing agency. ~~Routine admission means the admittance of a resident following evaluation of an application for admission and execution of a written placement agreement.~~

B. The written placement ~~agreements~~ agreement shall:

1. Authorize the resident's placement;
2. Address acquisition of and consent for any medical treatment needed by the resident;
- ~~3. Address the rights and responsibilities of each party involved;~~
- ~~4. 3.~~ Address financial responsibility for the placement;
- ~~5. 4.~~ Address visitation with the resident; ~~and~~
- ~~6. 5.~~ Address the education plan for the resident and the responsibilities of all parties: regarding the plan; and
6. Address the rights and all other responsibilities of each party involved.

6VAC35-41-760. Admission.

A. Written procedure governing the admission and orientation of residents to the facility shall provide for:

1. Verification of legal authority for placement;
2. Search of the resident and the resident's possessions, including inventory and storage or disposition of property, as appropriate;
3. Health screening;
4. Notification of parents and legal guardians, as applicable and appropriate, including of (i) the resident's admission, (ii) information on visitation, and (iii) general information, including how the resident's parent or legal guardian may request information and register concerns and complaints with the facility. The facility shall ask the parent or legal guardian ~~regarding~~ whether the resident has any immediate medical concerns or conditions;
5. Interview with the resident to answer questions and obtain information;
6. Explanation to the resident of program services and schedules;
7. An orientation on the residents' rights, including ~~but not limited to~~ the prohibited actions provided for in 6VAC35-41-560 (~~prohibited actions~~); and
8. Assignment of the resident to a housing unit or room.

B. When a resident is readmitted to a shelter care facility within 30 days from discharge, the facility shall administer all searches and screenings, provide all notifications, and update the all information required in subsection A of this section.

6VAC35-41-770. Orientation to facility rules and disciplinary procedures.

A. During the orientation to the facility, residents shall be given written information describing facility rules, the sanctions for rule violations, and the facility's disciplinary process. ~~These~~ The written information shall be explained to the resident and documented by the dated signature of the resident and staff.

B. Where a language or literacy problem exists that can lead to a resident misunderstanding the facility rules and regulations, staff or a qualified person under the supervision of staff shall assist the resident.

6VAC35-41-780. Emergency admissions.

Providers accepting emergency admissions, ~~which are the unplanned or unexpected admission of a resident in need of immediate care excluding self-admittance to a shelter care facility or a court ordered placement~~, shall:

1. Develop and implement written procedures governing such admissions that shall ~~include procedures~~ require the

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provider to make and document prompt efforts to obtain (i) a written placement agreement signed by the parent or legal guardian or (ii) the ~~order of a court~~ order;

2. Place in each resident's record the ~~order of a court, court order,~~ a written request ~~for care~~ or documentation of an oral request for care, and justification ~~of for~~ why the resident is ~~to be~~ being admitted on an emergency basis; and

3. Except for placements pursuant to court orders, ~~clearly~~ document clearly in the written assessment information gathered for the emergency admission that the individual meets the facility's criteria for admission.

6VAC35-41-790. Resident transfer between residential facilities located in Virginia and operated by the same governing authority.

A. Except for transfers pursuant to a court order, when a resident is transferred from one facility to another facility operated by the same provider or governing authority, the sending facility shall provide the receiving facility, at the time of transfer, a written summary of (i) the resident's progress while at the sending facility; (ii) the justification for the transfer; (iii) the resident's current strengths and needs; and (iv) any medical needs, medications, and restrictions and, if necessary, instructions for meeting these needs.

B. Except for transfers pursuant to a court order, when a resident is transferred from one facility to another facility operated by the same provider or governing authority, the receiving facility shall document at the time of transfer:

1. Preparation measures accomplished through sharing information with the resident, the family, and the placing agency about the receiving facility, the staff, the population served, activities, and criteria for admission;

2. Notification to the family, if as applicable and appropriate, the resident, the placement agency, and the legal guardian; and

3. Receipt of the written summary from the sending facility required by subsection A of this section.

6VAC35-41-800. Placement of residents outside the facility. (Repealed.)

~~A resident shall not be placed outside the facility prior to the facility obtaining a placing agency license from the Department of Social Services, except as permitted by statute or by order of a court of competent jurisdiction.~~

6VAC35-41-810. Discharge procedures.

A. The provider shall have written criteria for discharge that shall include:

1. Criteria for a resident's completing the program that are consistent with the facility's programs and services;

2. Conditions under which a resident may be discharged before completing the program; and

3. Procedures for assisting placing agencies in placing the residents should the facility cease operation.

B. The provider's criteria for discharge shall be accessible to prospective residents, parents or legal guardians, and placing agencies.

C. Residents younger than 18 years of age shall be discharged only to the parent or legal guardian, legally authorized representative, or foster parent with the written authorization of a representative of the legal guardian. Residents ~~over the age of 17~~ 18 years of age or older or who have been emancipated may assume responsibility for their own discharge.

D. As appropriate and applicable, information concerning current medications, need for continuing therapeutic interventions, educational status, and other items important to the resident's continuing care shall be provided to the parent or legal guardian or legally authorized representative, ~~as appropriate.~~

E. Residents shall be permitted to take personal clothing when discharged from the facility.

6VAC35-41-820. Discharge documentation.

A. Except for residents discharged pursuant to a court order, the case record of a discharged resident shall contain the following:

1. Documentation that discharge planning occurred prior to the planned discharge date;

2. Documentation that discussions with the parent or legal guardian, placing agency, and resident regarding discharge planning occurred prior to the planned discharge date;

3. A written discharge plan developed prior to the planned discharge date; and

4. As soon as possible, but no later than 30 days after discharge, a comprehensive discharge summary ~~placed in the resident's record and,~~ which also shall be sent to the placing agency. The discharge summary shall review the following:

a. ~~Services~~ The services provided to the resident;

b. The resident's progress toward meeting service plan objectives;

c. The resident's continuing needs and recommendations; ~~if any,~~ for further services and care, if any;

d. ~~Reasons~~ The reasons for discharge and names of persons to whom the resident was discharged;

e. ~~Dates~~ The dates of admission and discharge; and

f. ~~Date~~ The date the discharge summary was prepared and the signature of the person ~~preparing~~ who prepared it.

B. When a resident is discharged pursuant to a court order, the case record shall contain a copy of the court order.

6VAC35-41-840. Structured programming.

A. Each facility shall implement a comprehensive, planned, and structured daily routine, ~~including appropriate supervision~~ designed to:

1. Meet the residents' physical and emotional needs;
2. Provide protection, guidance, and appropriate supervision;
3. Ensure the delivery of program services; and
4. Meet the objectives of any individual service plan, if applicable.

B. Each facility shall have goals, objectives, and strategies consistent with the facility's mission and program objectives utilized when working with all residents until the residents' ~~individualized~~ individual service plans are developed. These goals, objectives, and strategies shall be provided to the residents in writing during orientation to the facility.

C. Residents shall be allowed to participate in the facility's programs, as applicable, upon admission.

6VAC35-41-850. Daily log.

A. A daily communication log shall be, ~~in accordance with facility procedures,~~ maintained, in accordance with facility procedures, to inform staff of significant happenings or problems experienced by residents.

B. The date and time of the entry and the identity of the individual making each entry shall be recorded.

C. If the facility records ~~log book type information~~ its log on a computer, all entries shall post the date, time, and identity of the person making an entry. The computer program shall prevent previous entries from being overwritten.

6VAC35-41-860. Individual service plan.

A. An individual service plan shall be developed and placed in the resident's record within 30 days following admission and implemented immediately thereafter. The initial individual service plan shall be distributed to the resident; the resident's family, legal guardian, or legally authorized representative; the placing agency; and appropriate facility staff.

B. Individual service plans shall describe in measurable terms the:

1. Strengths and needs of the resident;
2. Resident's current level of functioning;
3. Goals, objectives, and strategies established for the resident including a behavior support plan, if appropriate;
4. Projected family involvement;

5. Projected date for accomplishing each objective; and

6. Status of the projected discharge plan and estimated length of stay, except that this requirement shall not apply to a facility that discharges only upon receipt of the order of a court of competent jurisdiction.

C. Each individual service plan shall include the date it was developed and the signature of the person who developed it.

D. The individual service plan shall be reviewed within 60 days of the development of the plan and within each 90-day period thereafter. The individual service plan shall be revised as necessary. Any changes to the plan shall be made in writing. All participants shall receive copies of the revised plan.

E. The resident and facility staff shall participate in the development of the individual service plan.

F. The (i) supervising agency and (ii) resident's parents, legal guardian, or legally authorized representative, if appropriate and applicable, shall be given the opportunity to participate in the development of the resident's individual service plan.

G. Copies of the individual service plan shall be provided to the (i) resident; (ii) parents or legal guardians, as appropriate and applicable, and (iii) the placing agency.

6VAC35-41-870. Quarterly reports.

A. Except when a resident is placed in a shelter care program, the resident's progress toward meeting ~~his~~ individual service plan goals shall be reviewed and a progress report shall be prepared within 60 days of the development of the plan and within each 90-day period thereafter ~~and~~ The progress report shall review the status of the following:

1. ~~Resident's~~ The resident's progress toward meeting the plan's objectives;
2. ~~Family's~~ The family's involvement;
3. ~~Continuing~~ The continuing needs of the resident;
4. ~~Resident's~~ The resident's progress ~~towards~~ toward discharge; and
5. ~~Status~~ The status of discharge planning.

B. Each quarterly progress report shall include the date it was developed and the signature of the person who developed it.

C. All quarterly progress reports shall be distributed to the resident; the resident's ~~family, parent,~~ parent, legal guardian, or legally authorized representative; the placing agency; and appropriate facility staff.

6VAC35-41-880. Therapy.

~~Therapy, if provided, shall be provided by an individual~~ Individuals providing therapy shall be: (i) licensed as a ~~therapist~~ therapist by the Department of Health Professions or (ii) ~~who is licensure~~ eligible for licensure and working under

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the supervision of a licensed therapist unless exempted from these requirements under the Code of Virginia.

6VAC35-41-890. Community relationships.

~~A. Opportunities shall be provided~~ Facilities shall provide opportunities for the residents to participate in activities and to utilize resources in the community.

~~B. In addition to the requirements of 6VAC35-41-290 (background checks for volunteers or interns), written procedures shall govern how the facility will determine if participation in such community activities or programs would be in the residents' best interest.~~

C. Each facility shall have a staff community liaison who shall be responsible for facilitating cooperative relationships with neighbors, the school system, local law enforcement, local government officials, and the community at large.

~~D. Each provider~~ Providers shall develop and implement written procedures for promoting positive relationships with the neighbors that shall be approved by the department their neighbors.

6VAC35-41-900. Resident visitation at the homes of staff.

~~Resident visitation at~~ Residents shall be prohibited from visiting the homes of staff is prohibited unless written permission from the (i) resident's parent or legal guardian, as applicable and appropriate, (ii) the facility administrator, and (iii) the placing agency is obtained before the visitation occurs. The written permission shall be kept in the resident's record.

6VAC35-41-905. Work and employment.

A. Paid and unpaid work assignments, including chores, are assigned by or carried out at the facility shall be in accordance with the developmental level, health, and ability of the resident.

B. Chores shall not interfere with school programs, study periods, meals, or sleep.

C. Work assignments or employment outside the facility, including reasonable rates of pay, shall be approved by the facility administrator, upon collaboration with the referring agency and the parent or legal guardian.

D. In both work assignments and employment, the facility administrator shall evaluate the appropriateness of the work and fairness of the pay.

6VAC35-41-910. Additional assignments of direct care staff. (Repealed).

~~If direct care staff assume nondirect care responsibilities, such responsibilities shall not interfere with the staff's direct care duties.~~

6VAC35-41-920. Staff supervision of residents.

A. No member of the direct care staff shall be on duty and responsible for the direct care of residents more than six consecutive days without a rest day, except in an emergency. ~~For the purpose of this section, a rest day shall mean a period of not less than 24 consecutive hours during which a staff person has no responsibility to perform duties related to the operation of the facility.~~

B. Direct care staff shall have an average of at least two rest days per week in any four-week period.

C. Direct care staff shall not be on duty more than 16 consecutive hours, except in an emergency.

~~D. There~~ Except as provided in subsection G of this section, there shall be at least one trained direct care staff member who has satisfied the requirements in 6VAC35-41-200 and, if applicable, 6VAC35-41-210 on duty and actively supervising residents at all times that one or more residents are present.

E. Whenever residents are being supervised by staff, there shall be at least one staff person present with a current basic certification in standard first aid and a current certificate in cardiopulmonary resuscitation issued by a recognized authority.

F. The provider shall develop and implement written procedures that address staff supervision of residents including contingency plans for resident illnesses, emergencies, and off-campus activities, and resident preferences. These procedures shall be based on the:

1. Needs of the population served;
2. Types of services offered;
3. Qualifications of staff on duty; and
4. Number of residents served.

G. Notwithstanding the requirements in subsection D of this section, the trained direct care staff member who is present, on duty, and actively supervising residents in an independent living program shall be authorized, in emergency situations, to leave the facility for no longer than one hour to attend to a resident who is away from the facility and is in need of immediate assistance. Facilities that elect to exercise this option must observe the following rules:

1. The direct care staff must provide notice to the facility administrator or other supervisor before leaving the facility;
2. Residents who remain at the facility shall be provided with an emergency telephone number or other means of immediately communicating with a staff member; and
3. The facility shall have written procedures governing this exception.

6VAC35-41-930. Staffing pattern.

A. During the hours that residents are scheduled to be awake, there shall be at least one direct care staff member awake, on duty, and responsible for supervision of every ~~10~~ eight residents, or portion thereof, on the premises ~~or participating in off campus, facility sponsored activities, except that independent living programs shall have at least one direct care staff member awake, on duty, and responsible for supervision of every 15 residents on the premises or participating in off campus, facility sponsored activities.~~

B. During the hours that residents are scheduled to sleep, there shall be no ~~less~~ fewer than one direct care staff member on duty and responsible for supervision of every 16 residents, or portion thereof, on the premises.

C. There shall be at least one direct care staff member on duty and responsible for the supervision of residents in each building where residents are sleeping. ~~This requirement does not apply to approved independent living programs.~~

~~D. On each floor where residents are sleeping, there shall be at least one direct care staff member awake and on duty for every 30 residents or portion thereof.~~

D. The facility administrator shall have the discretion to determine the appropriate staffing ratios when residents are participating in off-campus, facility-sponsored activities or events after taking into account the residents who are participating, the nature of the event, and any other factors important in establishing the appropriate ratio. There shall never be fewer than one direct care staff member present for every eight residents or portion thereof while attending off-campus, facility-sponsored activities.

E. The provisions of this section shall not apply to independent living programs. Staffing for independent living programs shall be provided in accordance with 6VAC35-41-1005.

6VAC35-41-935. Periodic monitoring of residents.

A. Whenever residents are present in the facility, staff shall conduct periodic checks on each resident in the facility at least once every 30 minutes and more often if justified by the circumstances. Each check shall be documented in accordance with written procedures.

B. The requirement provided in subsection A of this section shall not apply to independent living programs.

6VAC35-41-950. Work and employment. (Repealed.).

~~A. Assignment of chores that are paid or unpaid work assignments shall be in accordance with the age, health, ability, and service plan of the resident.~~

~~B. Chores shall not interfere with school programs, study periods, meals, or sleep.~~

~~C. Work assignments or employment outside the facility, including reasonable rates of pay, shall be approved by the facility administrator with the knowledge and consent of the parent or legal guardian, as appropriate and applicable.~~

~~D. In both work assignments and employment the facility administrator shall evaluate the appropriateness of the work and the fairness of the pay.~~

Part VIII VII
Independent Living Programs

6VAC35-41-960. Independent living programs. (Repealed.).

~~A. Independent living programs shall be a competency-based program, specifically approved by the board to provide the opportunity for the residents to develop the skills necessary to become independent decision makers, to become self-sufficient adults, and to live successfully on their own following completion of the program.~~

~~B. Independent living programs shall have a written description of the curriculum and methods used to teach living skills, which shall include finding and keeping a job, managing personal finances, household budgeting, hygiene, nutrition, and other life skills.~~

6VAC35-41-970. Independent living programs curriculum; curricula and assessment.

~~A. Each An independent living program ~~must shall~~ demonstrate ~~that use of~~ a structured program ~~using that~~ incorporates materials and ~~curriculum curricula~~ curricula approved by the board ~~is being used~~ facility administrator to teach independent living skills. The ~~curriculum must~~ curricula shall include information regarding each of the areas listed in subsection ~~B C~~ of this section.~~

B. An independent living program shall have a written description of the curricula and methods used to teach living skills.

C. Within 14 days of placement, the provider must complete an assessment, including strengths and needs, of the resident's life living skills using an independent living assessment tool approved by the department. The assessment must cover covering the following areas:

1. Money management and consumer awareness;
2. Food management;
3. ~~Personal~~ Hygiene and personal appearance;
4. Social skills;
5. ~~Health and sexuality~~ Physical and mental health;
6. Housekeeping;
7. Transportation;
8. Educational planning and career planning;

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9. Job seeking skills;
10. Job maintenance skills;
11. Emergency and safety skills;
12. Knowledge of community resources;
13. Interpersonal skills and social relationships;
14. Legal ~~skills matters~~;
15. Leisure activities; and
16. Housing.

~~C. The resident's individualized service plan shall include, in addition to the requirements found in 6VAC35-41-860 (individual service plan), goals, objectives, and strategies addressing each of the areas listed in subsection B of this section, as applicable.~~

D. The independent living program shall document each resident's progress toward developing independent living skills.

6VAC35-41-980. Employee training in independent living programs.

~~Each An independent living program shall develop and implement procedures to train that require training of all direct care staff within 14 days of employment before the expiration of the staff's 14th work day on the content of the independent living curriculum, curricula, the use of the independent living materials, the application of the assessment tool, and the documentation methods used. Documentation of the training shall be kept maintained in the employee's staff personnel record.~~

6VAC35-41-990. Medication management in independent living programs.

If an independent living program allows residents age 18 years or older are to share in the responsibility for administering their own medication with the provider, the independent living program shall develop and implement written procedures that include:

- ~~1. Training for the resident~~ Resident training in self administration self-administration and recognition of side effects;
- ~~2. Method~~ The method for storage and safekeeping of medication;
- ~~3. Method~~ The method for obtaining approval for the resident to self-administer self-administer medication from a person authorized by law to prescribe medication; and
- ~~4. Method~~ The method for documenting the administration of medication.

6VAC35-41-1000. Nutrition procedure in independent living programs.

~~Each independent~~ Independent living program programs shall develop and implement written procedures that ensure that each resident is receiving adequate nutrition as required in 6VAC35-41-650 A, and B, ~~and C (nutrition).~~

6VAC35-41-1005. Staffing in independent living programs.

During all hours, regardless of whether residents are scheduled to be awake or asleep, an independent living program shall have at least one direct care staff member awake, on duty, and responsible for supervision of every 16 residents on the premises; however, in accordance with subsection G of 6VAC35-41-920, the direct care staff member shall be authorized in emergency situations to leave the facility for no longer than one hour to attend to a resident who is away from the facility and is in need of immediate assistance.

Part ~~IX~~ VIII

Wilderness Programs and Adventure Activities

6VAC35-41-1010. Wilderness program Requirements for wilderness programs.

~~A. The provider must shall obtain approval by from the board prior to director before operating a primitive camping wilderness program.~~

~~B. Any A~~ A wilderness program must meet the following conditions: (i) maintain a nonpunitive environment; (ii) have ~~an experience a written~~ a written curriculum; and (iii) accept only residents only who are nine years of age or older who cannot presently function at home, in school, or in the community.

~~C. Any A~~ A wilderness work program ~~or wilderness work camp program~~ shall have a written program description covering:

- ~~1. Its~~ The program's intended resident population;
2. How work assignments, education, vocational training, and treatment will be interrelated;
3. The length of the program;
4. The type and duration of treatment and supervision to be provided upon release or discharge; and
5. The program's behavioral expectations, incentives, and sanctions.

6VAC35-41-1020. Wilderness Procedures for wilderness programs or adventure activities; training.

~~A. All wilderness programs and providers that take residents on wilderness or adventure activities shall develop and implement written procedures that include:~~

1. Staff and resident training and experience requirements for each activity;
- ~~2. Resident training and experience requirements for each activity;~~

~~3.~~ 2. Specific ~~staff to resident~~ staff-to-resident ratio and supervision plan that is appropriate for each activity, including sleeping arrangements and supervision during night ~~time~~ hours. The ratio and supervision plan shall meet the requirements set out in 6VAC35-41-930;

~~4.~~ 3. Plans to evaluate and document each participant's physical health throughout the activity;

~~5.~~ 4. Preparation and planning needed for each activity and time frames;

~~6.~~ 5. Arrangement, maintenance, and inspection of activity areas;

~~7.~~ 6. A plan to ensure that any equipment and gear that is to be used in connection with a specified wilderness or adventure activity is appropriate to the activity, certified if required, in good repair, in operable condition, and age and body size appropriate;

~~8.~~ 7. Plans to ensure that all ropes and paraphernalia used in connection with rope rock climbing, rappelling, high and low ropes courses, or other adventure activities in which ropes are used are approved annually by an appropriate certifying organization and have been inspected by staff responsible for supervising the adventure activity before engaging residents in the activity;

~~9.~~ 8. Plans to ensure that all participants are appropriately equipped, clothed, and wearing safety gear, such as a helmet, goggles, safety belt, life jacket, or a flotation device, that is appropriate to the ~~adventure~~ activity in which the resident is engaged;

~~10.~~ 9. Plans for food and water supplies and management of these resources;

~~11.~~ 10. Plans for the safekeeping and distribution of medication;

~~12.~~ 11. Guidelines to ensure that resident participation is ~~conducted~~ falls within the boundaries of the resident's capabilities, dignity, and respect for self-determination;

~~13.~~ 12. Overall emergency, safety, and communication plans for each activity including rescue procedures, frequency of drills, resident accountability, prompt evacuation, and notification of outside emergency services; and

~~14.~~ 13. Review of trip plans by the trip coordinator.

B. Direct care ~~workers~~ staff hired by wilderness ~~campsite~~ programs and providers that take residents on wilderness or adventure activities shall be trained in a wilderness first aid course.

6VAC35-41-1030. Initial physical for wilderness programs or adventure activities.

Initial physical forms used by wilderness ~~campsite~~ programs and providers that take residents on wilderness or adventure activities shall include:

1. A statement notifying the doctor of the types of activities the resident will be participating in; and
2. A statement signed by the doctor stating that the individual's health does not prevent him from participating in the described activities.

6VAC35-41-1040. Physical environment of wilderness programs or adventure activities.

- ~~A.~~ Each resident shall have adequate personal storage area.
- ~~B.~~ A. If combustion-type heating devices, campfires, or other sources of combustion are present, fire extinguishers of a 2A 10BC rating shall be maintained ~~so that it is never necessary to travel more than or available within~~ 75 feet to a fire extinguisher from combustion type heating devices, campfires, or other of the source of combustion.
- ~~C.~~ B. Artificial lighting shall be provided in a safe manner.
- ~~D.~~ C. All areas of the campsite shall be lighted for safety when occupied by residents.
- ~~E.~~ D. A telephone or other means of communication is ~~required at~~ shall be accessible in each area where residents sleep or participate in programs.
- ~~F.~~ E. First aid kits used by wilderness ~~campsite~~ programs and providers that take residents on adventure activities shall be appropriate for the activity ~~appropriate~~ and ~~shall be~~ accessible at all times.

6VAC35-41-1050. Sleeping areas of wilderness programs or adventure activities.

If a wilderness program requires outdoor, off-campus, or alternative overnight sleeping arrangements, the following provisions shall apply:

- ~~A.~~ In lieu 1. Instead of or in addition to dormitories, cabins, or barracks for housing residents, primitive campsites may be used.
- ~~B.~~ Sleeping areas 2. Areas in which residents sleep shall be protected by screening or other means to prevent admittance of flies and mosquitoes.
- ~~C.~~ 3. A separate bed, bunk, ~~or cot,~~ or sleeping bag, if applicable, shall be made available for each person.
- ~~D.~~ 4. A mattress cover shall be provided for each mattress, as applicable.
- ~~E.~~ Bedding 5. Bedding, if used, shall be clean, dry, sanitary, and in good repair.

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~~F. Bedding~~ 6. Bedding, if used, shall be adequate to ensure protection and comfort in cold weather.

~~G. 7.~~ Sleeping bags, if used, shall be fiberfill and rated for 0°F.

~~H. 8.~~ Linens shall be changed as often as required for cleanliness and sanitation but not less frequently than once a week every seven days.

~~I. 9.~~ Staff shall be of the same sex ~~may as each resident in a tent or sleeping room in order to share a the tent or sleeping area room~~ with the residents.

6VAC35-41-1060. Personal necessities in wilderness programs or adventure activities.

~~A. Each resident~~ Residents participating in wilderness programs shall be provided with an adequate supply of clean clothing and footwear that is sturdy, suitable for ~~outdoor living~~ the activity planned, and is appropriate to the geographic location and season.

~~B. Sturdy, water resistant, outdoor footwear shall be provided for each resident.~~

6VAC35-41-1070. Trip or activity coordination for wilderness programs ~~or adventure activities~~.

~~A. All wilderness~~ Wilderness programs and facilities that take residents on wilderness or adventure activities must shall designate one staff person to be the trip coordinator who will be responsible for all facility wilderness or adventure trips.

~~1. This person must~~ The trip coordinator shall have experience in and knowledge regarding wilderness activities and be trained in a wilderness first aid course. The ~~individual must trip coordinator~~ also shall have at least one year experience at the facility and be familiar with the ~~facility's~~ facility's procedures, staff, and residents.

2. Documentation regarding this knowledge and experience shall be ~~found~~ placed in the individual's ~~staff personnel~~ record.

3. The trip coordinator ~~will~~ shall review all trip plans and procedures and ~~will~~ shall ensure that staff and residents meet the requirements as outlined in the facility's procedure regarding each wilderness ~~or adventure activity to take place during~~ planned as part of the trip.

~~4. The trip coordinator will review all trip plans and procedures and will ensure that staff and residents meet the requirements as outlined in the facility's procedure regarding each wilderness or adventure activity to take place during the trip.~~

B. The trip coordinator shall conduct a post trip debriefing within 72 hours of the group's return to base to evaluate individual and group goals as well as the trip as a whole.

C. The trip coordinator ~~will~~ shall be responsible for (i) writing a summary of the debriefing session ~~and shall be responsible for;~~ and (ii) ensuring that procedures are updated to reflect improvements needed.

D. A trip folder ~~will~~ shall be developed for each wilderness or adventure activity conducted away from the facility and shall include:

1. Medical release forms including pertinent medical information on the trip participants;
2. Phone numbers for administrative staff and emergency personnel;
3. Daily trip logs;
4. Incident reports;
5. ~~Swimming~~ A swimming proficiency list if the trip is near water;
6. Daily logs;
7. Maps of the area covered by the trip; and
8. Daily plans.

~~E. The provider shall ensure that before engaging~~ Before allowing participants to engage in any aquatic activity, ~~each resident shall be classified by~~ the trip coordinator or his designee shall develop a list that classifies residents according to swimming ~~ability in one of two classifications: swimmer and nonswimmer. This ability. The list shall be placed in the trip folder as required in subsection D of this section, and the resident's classification shall be documented in the resident's record and in the trip folder.~~

F. The ~~provider~~ trip coordinator shall ensure that lifesaving equipment is provided for all aquatic activities and is placed so that it is immediately available in case of an emergency. ~~At a minimum, the~~ The equipment shall include:

1. A whistle or other audible signal device; and
2. A lifesaving throwing device.

G. The trip coordinator shall ensure that all aquatic activity is supervised by a certified lifeguard.

~~Part X~~ IX

~~Family-Oriented~~ Family-Oriented Group Homes

6VAC35-41-1080. Requirements of family oriented group home systems.

~~Family-oriented~~ Family-oriented group home systems shall have written procedures for:

1. Setting the number of residents to be housed in each home and room of the home and prohibiting individuals ~~less younger than 18 years of age from sharing sleeping rooms with and~~ individuals older than 17 who are 18 years of age

~~from sharing sleeping rooms or older~~ without specific approval from the facility administrator;

2. Providing supervision of and guidance for the ~~family oriented~~ family-oriented group home parents and relief staff;
3. Admitting and orienting residents;
4. Preparing ~~a treatment an~~ an individual service plan for each resident within 30 days of admission or 72 hours in the case of a shelter care facility, and reviewing the plan quarterly;
5. Providing appropriate programs and services from intake through release;
6. Providing residents with spending money;
7. Managing resident records and releasing information;
8. Providing medical and dental care to residents;
9. ~~Notifying parents and guardians, as appropriate and applicable, the placing agency, and the department of any serious incident as specified in written procedures;~~
10. Making a program supervisor or designated staff person available to residents and house parents 24 hours a day; and
11. ~~10. Ensuring the secure control of any firearms and ammunition in the home that firearms and ammunition are secured in a manner so as to prevent unauthorized access by juvenile residents in the home.~~

6VAC35-41-1090. Examination by physician.

Each resident admitted to a ~~family oriented~~ family-oriented group home shall have a physical examination including tuberculosis screening within 30 days of admission unless the resident was examined within six months prior to admission to the program.

6VAC35-41-1100. Requirements of family oriented group homes.

Each ~~family oriented~~ family-oriented group home shall have:

1. A fire extinguisher, inspected annually;
2. Smoke alarm devices in working condition according to inspections conducted at least monthly and documented by facility staff;
3. Alternative methods of escape from second story; Modern sanitation facilities;
4. Freedom from physical hazards;
5. ~~5.~~ 5. A written emergency plan that is communicated to all new residents at orientation;
6. ~~6.~~ 6. An up-to-date listing of medical and other emergency resources in the community;
7. ~~7.~~ 7. A separate bed for each resident, ~~with clean sheets equipped with a mattress, pillow, blankets, bed linens, and if~~

needed, a waterproof mattress cover. The blankets and linens weekly; shall be cleaned at least once every seven days and more often, if needed. Bleach or another sanitizing agent approved by the federal Environmental Protection Agency to destroy bacteria shall be used in the laundering of bed linens;

8. A bedroom that is well illuminated and ventilated; is in reasonably good repair; is not a hallway, unfinished basement or attic; and ~~provides conditions~~ allows for privacy;
9. ~~10.~~ 9. A place to store residents' clothing and personal items;
10. ~~Sanitary~~ 10. Modern sanitary toilet and bath facilities that are adequate for the number of residents;
11. ~~11.~~ 11. A safe and clean place for indoor and outdoor recreation;
12. ~~12.~~ 12. Adequate furniture;
13. ~~13.~~ 13. Adequate laundry facilities or laundry services;
14. ~~14.~~ 14. A clean and pleasant dining area;
15. ~~15.~~ 15. Adequate and nutritionally balanced meals; and
16. ~~16.~~ 16. Daily provision of clean size-appropriate clothing and shoes for indoor and outdoor wear and articles necessary for maintaining proper personal hygiene. All such items shall be clean and in good repair.

6VAC35-41-1110. Other applicable regulations.

~~Each~~ In addition to the requirements listed in 6VAC35-41-1080 through 6VAC35-41-1100, each family oriented group home also shall ~~also~~ be subject to and comply with the requirements of the following provisions of this chapter:

1. ~~6VAC35-41-180 (employee and volunteer background checks)~~ 1. 6VAC35-41-90;
2. ~~6VAC35-41-190 (required initial orientation)~~ 2. 6VAC35-41-180;
3. ~~6VAC35-41-200 (required initial training); and~~
4. ~~VAC35-41-210 (required retraining);~~ 3. 6VAC35-41-190;
4. 6VAC35-41-200;
5. 6VAC35-41-210;
6. 6VAC35-41-560;
7. 6VAC35-41-565;
8. 6VAC35-41-570;
9. 6VAC35-41-580;
10. 6VAC35-41-590;
11. 6VAC35-41-600;
12. 6VAC35-41-620;

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- 13. 6VAC35-41-640;
- 14. 6VAC35-41-660;
- 15. 6VAC35-41-670;
- 16. 6VAC35-41-690; and
- 17. 6VAC35-41-700.

Part XI Respite Care

6VAC35-41-1120. Definition of respite care. (Repealed.)

~~Respite care facility shall mean a facility that is specifically approved to provide short term, periodic residential care to residents accepted into its program in order to give the parents or legal guardians temporary relief from responsibility for their direct care.~~

6VAC35-41-1130. Admission and discharge from respite care. (Repealed.)

~~A. Acceptance of an individual as eligible for respite care by a respite care facility is considered admission to the facility. Each individual period of respite care is not considered a separate admission.~~

~~B. A respite care facility shall discharge a resident when the legal guardian no longer intends to use the facility's services.~~

6VAC35-41-1140. Updating health records in respite care. (Repealed.)

~~Respite care facilities shall update the information required by 6VAC35 41 1170 B (health care procedures) at the time of each stay at the facility.~~

Part XII X Health Care Services

6VAC35-41-1150. Definitions applicable to health care services. (Repealed.)

~~"Health authority" means the individual, government authority, or health care contractor responsible for organizing, planning, and monitoring the timely provision of appropriate health care services, including arrangements for all levels of health care and the ensuring of quality and accessibility of all health services, consistent with applicable statutes and regulations, prevailing community standards, and medical ethics.~~

~~"Health care record" means the complete record of medical screening and examination information and ongoing records of medical and ancillary service delivery including, but not limited to, all findings, diagnoses, treatments, dispositions, prescriptions, and their administration.~~

~~"Health care services" means those actions, preventative and therapeutic, taken for the physical and mental well-being of a resident. Health care services include medical, dental,~~

~~orthodontic, mental health, family planning, obstetrical, gynecological, health education, and other ancillary services.~~

~~"Health trained personnel" means an individual who is trained by a licensed health care provider to perform specific duties such as administering health care screenings, reviewing screening forms for necessary follow up care, preparing residents and records for sick call, and assisting in the implementation of certain medical orders.~~

6VAC35-41-1160. Provision of health care services.

~~Treatment by nursing Nursing personnel shall be performed provide treatment pursuant to the laws and regulations governing the practice of nursing within the Commonwealth. Other ~~health trained~~ health-trained personnel shall provide care within their level of training and certification.~~

6VAC35-41-1170. Health care procedures.

A. The provider shall have and implement written procedures for promptly:

1. Arranging for the provision of medical and dental services for health problems identified at admission;
2. Arranging for the provision of routine ongoing and follow-up medical and dental services after admission;
3. Arranging for emergency medical and mental health care services, as appropriate and applicable, for each resident as provided by statute or by the agreement with the resident's parent or legal guardian;
4. Arranging for emergency medical and mental health care services, as appropriate and applicable, for any resident experiencing or showing signs of suicidal or homicidal thoughts, symptoms of mood or thought disorders, or other mental health problems; and
5. Ensuring that the required information in subsection B of this section is accessible and up to date.

B. The following written information concerning each resident shall be readily accessible to staff who may have to respond to a medical or dental emergency:

1. Name, address, and telephone number of the physician and dentist to be notified;
2. Name, address, and telephone number of a relative or other person to be notified;
3. Medical insurance company name and policy number or Medicaid number;
4. Information concerning:
 - a. Use of medication;
 - b. All allergies, including medication allergies;
 - c. Substance abuse and use;
 - d. Significant past and present medical problems; and

5. Written permission for emergency medical care, dental care, and obtaining immunizations or a procedure and contacts for obtaining consent.

~~C. Facilities approved to provide respite care shall update the information required by subsection B of this section at the time of each stay at the facility.~~

6VAC35-41-1180. ~~Health—trained~~ Health-trained personnel.

A. ~~Health-trained~~ Health-trained personnel shall provide care as appropriate to their level of training and certification and shall not administer health care services for which they are not qualified or specifically trained.

B. The facility shall retain documentation of the training received by ~~health-trained~~ health-trained personnel necessary to perform any designated health care services. Documentation of applicable, current licensure or certification shall constitute compliance with this section.

6VAC35-41-1190. Consent to and refusal of health care services.

A. ~~The knowing and voluntary agreement, without undue inducement or any element of force, fraud, deceit, duress, or other form of constraint or coercion, of a person who is capable of exercising free choice (informed consent) to health care shall be obtained from the resident, parent, guardian, or legal custodian as required by law. Consent to health care services shall be provided in accordance with § 54.1-2969 of the Code of Virginia. The juvenile residential facility shall obtain consent from the resident or parent or legal custodian as required by law before providing health care services to a resident. The consent shall be knowing and voluntary, without undue inducement or any element of force, fraud, deceit, duress, or other form of constraint or coercion.~~

B. The resident, parent, guardian, or legal custodian, as applicable, shall be advised by an appropriately trained medical professional of (i) the material facts regarding the nature, consequences, and risks of the proposed treatment, examination, or procedure and (ii) the alternatives to it.

C. Residents may refuse in writing medical treatment and care. This subsection does not apply to medication refusals that are governed by 6VAC35-41-1280 (medication).

D. When health care is rendered against the resident's will, it shall be in accordance with applicable laws and regulations.

6VAC35-41-1200. Health screening at admission.

The juvenile residential facility shall require that:

1. To prevent newly arrived residents who pose a health or safety threat to themselves or others from ~~being admitted to the general population jeopardizing the health of other residents~~, all residents shall immediately upon admission shall undergo a preliminary health screening consisting of a

structured interview and observation by health care personnel or ~~health-trained staff~~ health-trained personnel. As necessary to maintain confidentiality, all or a portion of the interview shall be conducted with the resident ~~without~~ outside the presence of the parent or guardian.

2. Residents admitted to the facility who ~~pose~~ are identified during the screening required in subsection A of this section as posing a health or safety threat to themselves or others shall ~~not be admitted to the facility's general population but provision shall be made for them to receive comparable services~~; be separated from all other residents in the facility until they are no longer a risk. During the period of separation, provision shall be made for the residents to receive comparable services.

3. Immediate health care is provided to residents who need it.

6VAC35-41-1210. Tuberculosis screening.

A. Within seven days of ~~placement arrival at a facility~~, each resident shall have had a screening risk assessment for tuberculosis; as evidenced by documentation by a medical professional or the completion of an assessment form containing the elements found on the current assessment form published by the Virginia Department of Health. The screening risk assessment can shall be no older than 30 days. The risk assessment may be administered by health-trained personnel; however, results of the assessment shall be interpreted by a physician, physician assistant, nurse practitioner, or registered nurse.

B. ~~A screening~~ In addition to the initial risk assessment required in subsection A of this section, a risk assessment for tuberculosis shall be completed annually on each resident; as evidenced by documentation by a medical professional or the completion of a form containing the elements of the assessment form published by the Virginia Department of Health.

C. If the physician, physician assistant, nurse practitioner, or registered nurse, having interpreted the results of the risk assessment, determines a tuberculosis screening is necessary, the facility shall refer the resident to the local health department or a medical professional for additional screening.

D. The facility's assessment and screening practices shall be performed consistent with ~~any~~ current recommendations of the Virginia Department of Health, Division of Tuberculosis Prevention and Control and the federal Department of Health and Human Services Centers for Disease Control and Prevention for the detection, diagnosis, prophylaxis, and treatment of pulmonary tuberculosis.

E. For any residents determined to have tuberculosis in a communicable form, the facility shall observe the requirements in 6VAC35-41-1230.

F. Active cases of tuberculosis contracted by a resident shall be reported to the local health department in accordance with

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the requirements of the Commonwealth of Virginia State Board of Health Regulations for Disease Reporting and Control (12VAC5-90).

G. The provider shall retain documentation of the assessment and screening results in a manner that maintains the confidentiality of information.

6VAC35-41-1220. Medical examinations and treatment.

~~A. Except for residents placed in a shelter care facility, each A resident accepted for care who has been accepted into a juvenile residential facility as a planned admission shall have a physical examination performed by or under the direction of a licensed physician no earlier than 90 days prior to admission to the facility or no later than seven days following admission, except (i) the report of an examination within the preceding 12 months shall be acceptable if a resident transfers from one facility licensed or certified by a state agency to another and (ii) a physical examination shall be conducted within 30 days following an emergency admission if a report of physical examination is not available. A resident placed in a facility pursuant to an emergency admission process shall have a physical within 90 days following the emergency admission.~~

B. Each resident shall have an annual physical examination by or under the direction of a licensed physician and an annual dental examination by a licensed dentist.

6VAC35-41-1230. Infectious or communicable diseases.

A. A resident with a communicable disease shall not be admitted unless a licensed physician certifies that:

1. The facility is capable of providing care to the resident without jeopardizing residents and staff; and
2. The facility is aware of the required treatment for the resident and the procedures to protect residents and staff.

The requirements of this subsection shall not apply to shelter care facilities.

B. The facility shall implement written procedures approved by a medical professional that:

1. Address staff (i) interactions with residents with infectious, communicable, or contagious medical conditions; and (ii) use of standard precautions;
2. Require staff training in standard precautions, initially and annually thereafter; in accordance with 6VAC35-41-200 and 6VAC35-41-210; and
3. Require staff to follow procedures for dealing with residents who have infectious or communicable diseases.

6VAC35-41-1240. Suicide prevention.

Written ~~procedure~~ procedures shall provide (i) for a suicide prevention and intervention program, developed in consultation with a qualified medical or mental health professional, and (ii) for all direct care staff to be trained in the

implementation of the program in accordance with 6VAC35-41-200 and 6VAC35-41-210.

6VAC35-41-1250. Residents' health care records.

A. Each resident's health care record shall include written documentation of (i) the initial physical examination, (ii) an annual physical examination by or under the direction of a licensed physician including any recommendation for follow-up care, and (iii) documentation of the provision of follow-up medical care recommended by the physician or as indicated by the needs of the resident.

B. The resident's active health care records (i) shall be (i) kept confidential and inaccessible from unauthorized persons, (ii) shall be readily accessible in case of emergency, and (iii) shall be made available to authorized staff consistent with applicable state and federal statutes and regulations.

C. Each physical examination report shall include:

1. Information necessary to determine the health and immunization needs of the resident, including:
 - a. Immunizations administered at the time of the exam;
 - b. Vision exam;
 - c. Hearing exam;
 - d. General physical condition including documentation of apparent freedom from communicable disease, including tuberculosis;
 - e. Allergies, chronic conditions, and ~~handicaps~~ disabilities, if any;
 - f. Nutritional requirements including special diets, if any;
 - g. Restrictions on physical activities, if any; and
 - h. Recommendations for further treatment, immunizations, and other examinations indicated;
2. Date of the physical examination; and
3. Signature of a licensed physician, the physician's designee, or an official of a local health department.

~~D. Each A~~ A resident's health care record shall include written documentation of (i) an annual examination by a licensed dentist and (ii) documentation of follow-up dental care recommended by the dentist or as indicated by the needs of the resident. This requirement does not apply to shelter care facilities and respite care facilities.

E. Each resident's health care record shall include notations of health and dental complaints and injuries and shall summarize symptoms and treatment given.

F. Each resident's health care record shall include or document the facility's efforts to obtain treatment summaries of ongoing psychiatric or other mental health treatment and reports, if applicable.

6VAC35-41-1260. First aid kits.

A. A well-stocked first aid kit shall be maintained; within the facility, as well as in facility vehicles used to transport residents, together with an inventory of its contents; and readily accessible for dealing with minor injuries and medical emergencies.

B. First aid kits ~~should~~ shall be monitored in accordance with ~~established facility~~ written procedures to ensure kits are maintained, stocked, and ready for use.

6VAC35-41-1270. Hospitalization and other outside medical treatment of residents.

A. When a resident needs hospital care or other medical treatment outside the facility:

1. ~~The resident shall be transported safely; and~~
2. ~~A~~ The facility shall ensure that a parent or legal guardian, a staff member, or a law-enforcement officer, as appropriate, shall accompany accompanies the resident and stay at least during admission. remains with the resident until the resident is admitted. If sending a staff member would result in inadequate coverage at the juvenile residential facility, the provider shall deploy a staff member to the hospital or outside medical facility as soon as reasonably possible.
2. If a law-enforcement officer conducts the transport, the provider shall comply with the provisions of subsection C of 6VAC35-41-550 unless exempted under subsection D of 6VAC35-41-550.

B. If a parent or legal guardian does not accompany the resident to the hospital or other off-site medical treatment ~~outside the facility, the parent or legal guardian provider shall be informed~~ inform the parent or legal guardian as soon as practicable that the resident was taken outside the facility off-site for medical attention as soon as is practicable.

6VAC35-41-1280. Medication.

A. All medication shall be properly labeled consistent with the requirements of the Virginia Drug Control Act (§ 54.1-3400 et seq. of the Code of Virginia). Medication prescribed for individual use shall be so labeled.

B. All medication shall be securely locked, unless otherwise ordered by a physician on an individual basis for keep-on-person or equivalent use.

C. All staff responsible for medication administration who do not hold a license issued by the Virginia Department of Health Professions authorizing the administration of medications shall have successfully completed a medication training program approved by the Board of Nursing or be licensed by the Commonwealth of Virginia to administer medications before they ~~can~~ may administer medication. All staff who administer medication shall complete an annual refresher medication training.

D. Staff authorized to administer medication shall be informed of any known side effects of the medication and the symptoms of the effects.

E. A program of medication, ~~including procedures regarding the use of over-the-counter medication pursuant to written or verbal orders signed by personnel authorized by law to give such orders,~~ shall be initiated for a resident only when prescribed in writing by a person authorized by law to prescribe medication. This includes over-the-counter medication administered pursuant to a written or verbal order that is issued by personnel authorized by law to give such orders.

F. All medications shall be administered in accordance with the physician's or other prescriber's instructions and consistent with the requirements of ~~§ 54.2-2408~~ § 54.1-3408 of the Code of Virginia and the Virginia Drug Control Act (§ 54.1-3400 et seq. of the Code of Virginia).

G. A medication administration record shall be maintained ~~of that identifies~~ all medicines received by each resident and ~~shall include that includes:~~

1. ~~Date~~ The date the medication was prescribed or most recently refilled;
2. ~~Drug~~ The drug name;
3. ~~Schedule~~ The schedule for administration;
4. ~~Strength~~ The strength;
5. ~~Route~~ The route;
6. ~~Identity~~ The identity of the individual who administered the medication; and
7. ~~Dates~~ The dates on which the medication was discontinued or changed.

H. ~~In the event of~~ If a medication incident or ~~an~~ adverse drug reaction; ~~occurs,~~ first aid shall be administered if indicated. Staff shall promptly contact a poison control center, pharmacist, nurse, or physician and shall take actions as directed. If the situation is not addressed in standing orders, the attending physician shall be notified as soon as possible and the actions taken by staff shall be documented. ~~A medical incident shall mean an error made in administering a medication to a resident including the following: (i) a resident is given incorrect medication; (ii) medication is administered to an incorrect resident; (iii) an incorrect dosage is administered; (iv) medication is administered at a wrong time or not at all; and (v) the medication is administered through an improper method. A medication error does not include a resident's refusal of appropriately offered medication.~~

I. Written procedures shall ~~provide for~~ require (i) the documentation of medication incidents, (ii) the review of medication incidents and reactions and ~~making any~~ implementation of necessary improvements, (iii) the storage of

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controlled substances, and (iv) the distribution of medication off campus. The procedures ~~must be~~ shall be approved by a health care professional. Documentation of this approval shall be retained.

J. Medication refusals shall be documented including action taken by staff. The facility shall follow procedures for managing such refusals that shall address:

1. ~~Manner~~ The manner by which medication refusals are documented, and
2. Physician follow-up, as appropriate.

K. Disposal and storage of unused, expired, and discontinued medications and medical implements shall be in accordance with applicable laws and regulations.

L. The telephone number of a regional poison control center and other emergency numbers shall be posted on or next to each nonpay telephone that has access to an outside line in each building in which residents sleep or participate in programs.

M. Syringes and other medical implements used for injecting or cutting skin shall be locked and inventoried in accordance with facility procedures.

Part ~~XIII~~ XI

Behavior Support and Management

6VAC35-41-1290. Behavior management.

A. Each facility shall implement a behavior management program. ~~Behavior management shall mean those principles and methods employed to help a resident achieve positive behavior and to address and correct a resident's inappropriate behavior in a constructive and safe manner in accordance with written procedures governing program expectations, treatment goals, and residents' and employees' safety and security.~~

B. Written procedures governing this program shall provide the following:

1. A description of the rules of conduct and behavioral expectations for the resident;
2. Orientation of residents as provided in 6VAC35-41-770 (orientation to facility rules and disciplinary procedures);
3. A description of a system of privileges and sanctions that is used and available for use;
4. Specification of the staff members who may authorize the use of privileges and sanctions; and
5. Documentation requirements when sanctions are imposed.

C. Written information concerning the procedures of the provider's behavior management program shall be provided ~~prior to~~ before admission to prospective residents, parents or legal guardians, and placing agencies. For court-ordered and

emergency admissions, this information shall be provided ~~to~~ according to the following timelines:

1. Residents shall receive the information within 12 hours following admission;
2. Placing agencies shall receive the information within 72 hours following the resident's admission; and
3. ~~Legal Parents or legal~~ Parents or legal guardians shall receive the information within 72 hours following the resident's admission.

D. When substantive revisions are made to procedures governing the provider's behavior management of resident behavior program, written information concerning the revisions shall be provided before implementation to:

1. ~~Residents prior to implementation~~ Residents; and
2. ~~Legal Parents or legal~~ Parents or legal guardians and placing agencies prior to implementation.

E. The facility administrator or designee shall review the behavior management program and procedures at least annually to determine appropriateness for the population served.

F. Any time residents are present, staff ~~must~~ who have completed required trainings in behavior management shall be present ~~who have completed all trainings in behavior management~~.

6VAC35-41-1300. Behavior support.

A. ~~Each~~ A facility shall have a ~~procedure regarding~~ written procedures governing behavior support plans for use with residents who need supports in addition to those provided in the facility's behavior management program ~~that addresses~~. The procedures shall address the circumstances under which such the plans shall be utilized.

~~Such~~ B. The behavior support plans shall support the resident's self-management of ~~his own~~ the resident's behavior and shall include:

1. Identification of positive and problem behavior;
2. Identification of triggers for behaviors;
3. Identification of successful intervention strategies for problem behavior;
4. Techniques for managing anger and anxiety; and
5. Identification of interventions that may escalate inappropriate behaviors.

~~B.~~ C. Individualized behavior support plans shall be developed in consultation with the:

1. Resident;
2. Legal guardian, if applicable;

3. Resident's parents, if applicable;
4. Program director;
5. Placing agency staff; and
6. Other applicable individuals.

~~C. Prior to working alone with an assigned resident, each D.~~
Each staff member shall review and be prepared to implement the assigned resident's behavior support plan.

6VAC35-41-1310. Timeout.

~~A. A facility may use a systematic behavior management technique program component designed to reduce or eliminate inappropriate or problematic behavior by having a staff require a resident to move to a specific location that is away from a source of reinforcement for a specific period of time or until the problem behavior has subsided (timeout) timeout~~ under the following conditions:

1. The provider shall develop and implement written procedures governing the conditions under which a resident may be placed in timeout and the maximum period of timeout.
- ~~2. The conditions and maximum period of timeout shall be based on the resident's chronological and developmental level.~~
3. The area in which a resident is placed shall not be locked nor the door secured in a manner that prevents the resident from opening it.
- ~~4. 3.~~ A resident in timeout shall be able to communicate with staff.
- ~~5. 4.~~ Staff shall check on monitor the resident in the timeout area at least every 15 minutes and more often depending on the nature of the resident's disability, condition, and behavior the circumstances. During each check on the resident, staff shall evaluate and document whether the resident is prepared to be released from timeout.

~~B. Use of timeout and staff checks on the residents shall be documented.~~

6VAC35-41-1320. Physical restraint.

A. Physical restraint shall be used as a last resort only after less restrictive interventions have failed or to control residents whose behavior poses a risk to the safety of the resident, ~~others,~~ staff, or the public others.

1. Staff shall use the least force deemed ~~reasonable to be~~ reasonably necessary to eliminate the risk or to maintain security and order and shall never use physical restraint as punishment or with the intent to inflict injury.
- ~~2. Staff may physically restrain a resident only after less restrictive behavior interventions have failed or when failure to restrain would result in harm to the resident or others.~~

~~3. Physical restraint shall be implemented, monitored, and discontinued only by staff who have been trained in the proper and safe use of restraint.~~

~~4. Physical restraint shall mean the application of behavior intervention techniques involving a physical intervention to prevent an individual from moving all or part of that individual's body.~~

B. ~~Written~~ The facility shall have written procedures governing the use of physical restraint ~~shall that~~ include:

1. The staff position ~~who will write~~ responsible for writing the report and the timeframe; for completing the report;
2. The staff position ~~who will review~~ responsible for reviewing the report and ~~timeframe;~~ the timeframe for reviewing the report; and
3. Methods to be followed should physical restraint, less intrusive interventions, or measures permitted by other applicable state regulations prove unsuccessful in calming and moderating the resident's behavior.

C. ~~All~~ Each application of physical restraints restraint shall be reviewed and evaluated in order to ~~plan for provide~~ continued staff development for and performance improvement.

D. Each application of physical restraint shall be fully documented in the resident's record including:

1. ~~Date~~ The date and time of the incident;
2. ~~Staff involved~~ The staff involved in the restraint;
3. ~~Justification~~ The justification for the restraint;
4. Less restrictive behavior interventions that were unsuccessfully attempted prior to using physical restraint;
5. ~~Duration~~ The duration of the restraint;
6. ~~Description~~ A description of the method ~~or methods~~ of physical restraint techniques used;
7. ~~Signature~~ The signature of the person completing the report and date; and
8. ~~Reviewer's~~ The reviewer's signature and date.

NOTICE: The following forms used in administering the regulation have been filed by the agency. Amended or added forms are reflected in the listing and are published following the listing. Online users of this issue of the Virginia Register of Regulations may also click on the name to access a form. The forms are also available from the agency contact or may be viewed at the Office of Registrar of Regulations, 900 East Main Street, 11th Floor, Richmond, Virginia 23219.

FORMS (6VAC35-41)

[Virginia Department of Health TB Risk Assessment Form, TB512 \(eff. 11/2016\)](#)

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~~DOCUMENTS INCORPORATED BY REFERENCE~~
(6VAC35-41)

~~Compliance Manual—Group Homes and Halfway Houses, effective January 1, 2014, Virginia Department of Juvenile Justice~~

VA.R. Doc. No. R17-4879; Filed April 21, 2021, 5:19 p.m.

Proposed Regulation

Title of Regulation: **6VAC35-101. Regulation Governing Juvenile Secure Detention Centers (amending 6VAC35-101-10, 6VAC35-101-20, 6VAC35-101-40 through 6VAC35-101-110, 6VAC35-101-130 through 6VAC35-101-155, 6VAC35-101-170 through 6VAC35-101-210, 6VAC35-101-240, 6VAC35-101-250, 6VAC35-101-260, 6VAC35-101-310, 6VAC35-101-330 through 6VAC35-101-380, 6VAC35-101-400 through 6VAC35-101-430, 6VAC35-101-460 through 6VAC35-101-580, 6VAC35-101-600 through 6VAC35-101-740, 6VAC35-101-770 through 6VAC35-101-840, 6VAC35-101-860 through 6VAC35-101-900, 6VAC35-101-920 through 6VAC35-101-1100, 6VAC35-101-1130, 6VAC35-101-1140, 6VAC35-101-1160 through 6VAC35-101-1250, 6VAC35-101-1270; adding 6VAC35-101-152, 6VAC35-101-175, 6VAC35-101-177, 6VAC35-101-185, 6VAC35-101-187, 6VAC35-101-195, 6VAC35-101-197, 6VAC35-101-635, 6VAC35-101-1105, 6VAC35-101-1115, 6VAC35-101-1145, 6VAC35-101-1153 through 6VAC35-101-1158; repealing 6VAC35-101-30, 6VAC35-101-270, 6VAC35-101-280, 6VAC35-101-290, 6VAC35-101-300, 6VAC35-101-1090, 6VAC35-101-1110, 6VAC35-101-1150).**

Statutory Authority: §§ 16.1-322.7 and 66-10 of the Code of Virginia.

Public Hearing Information: No public hearing is currently scheduled.

Public Comment Deadline: July 23, 2021.

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Basis: The board is entrusted with general, discretionary authority to promulgate regulations by § 66-10 of the Code of Virginia, which authorizes the board to promulgate such regulations as may be necessary to carry out the provisions of this title and other laws of the Commonwealth. Additionally, § 16.1-309.9 of the Code of Virginia requires the board to approve minimum standards for the construction and equipment of detention homes or other facilities and for food, clothing, medical attention, and supervision of juveniles housed in these facilities and programs.

Purpose: The proposed amendments are the result of a comprehensive review of this chapter conducted by department staff, representatives from the Virginia Juvenile Detention Association, various state agencies, and several

juvenile justice advocates. The amendments are necessary to streamline the language and clarify ambiguous or confusing provisions. The amendments also impose new requirements that align with changes that have occurred since the department's last review of the regulation, as well as recommendations the department received.

In 2003, Congress enacted the Prison Rape Elimination Act (PREA) (P.L. 108-79) to provide for the analysis of the incidence and effects of prison rape in federal, state, and local institutions and to provide information, resources, recommendations, and funding to protect individuals from prison rape. PREA created a commission charged with developing standards for the elimination of prison rape. The final rule for these standards became effective in 2012; however, juvenile correctional facilities had until October 2017 to comply with the standards related to staffing requirements and staffing ratios. Although many detention centers have adopted written procedures or are employing practices that align with PREA's mandates, the department's existing regulatory provisions regarding staffing ratios directly conflict with the PREA standards for juvenile facilities. Maintaining detention center existing staffing ratios could increase the likelihood of detention rape or assault incidents. Therefore, the department is proposing amendments to these provisions that align with the mandates in PREA.

In 2016, the Virginia Code Commission promulgated regulations intended to provide state agencies with guidance on filing, submitting, and publishing agency regulatory actions. The regulations prohibit state agencies from incorporating documents of their own creation into the agency's regulations unless the agency establishes that the documents or circumstances are unique and unusual. Some of the provisions in the existing regulation require detention centers to adhere to department-developed procedures or guidelines in violation of the Code Commission's regulations. The department is proposing amendments to remove these invalid provisions.

Legislation (Senate Bill 215) introduced during the 2016 Session of the General Assembly would have required the department to promulgate regulations that specified the parameters for imposing room confinement in juvenile correctional centers and juvenile detention centers. Although the legislation ultimately failed, it prompted the department to make room confinement a focal point for examination during the comprehensive review of this chapter. As a result of this review, the committee determined that additional restrictions were needed to ensure adequate monitoring protocols are in place, restriction periods are approved through proper channels, and medical and mental health professionals are assessing the impact on residents who are on room restriction for extended periods. These protocols will help to ensure the safety of residents who are confined to their rooms.

At least one juvenile detention center currently contracts with the federal government to house residents under the federal

government's custody. This program operates separately from the facility's predispositional and postdispositional programs. The department recently identified a gap in its certification authority that prevented the certification unit from inspecting and reviewing files of and interviewing residents under the federal government's custody. This gap had prevented the department from verifying facility compliance with its regulations and from ensuring the safety of the program participants. The department has addressed this issue through a fast-track regulatory action requiring these contracts to include provisions that bind the program to the department's certification regulations and that give the department access to residents within the program. This proposal includes additional amendments to the fast-track change clarifying that such contracts must be in writing and communicated to the department.

Chapter 599 of the 2020 Acts of Assembly directs the Board of Juvenile Justice, in collaboration with the Department of Behavioral Health and Developmental Services, to establish regulations governing the housing of youth who are detained in a juvenile correctional facility pursuant to contracts with the federal government. In order to carry out this directive, the department has convened a committee of representatives from juvenile detention centers, Department of Juvenile Justice staff, the Office of Refugee Resettlement, and the Department of Behavioral Health and Developmental Services. The department anticipates filing a separate regulatory action once this committee completes its work.

The use of mechanical restraints, and more specifically, the mechanical restraint chair in secure juvenile facilities has generated significant controversy in recent years. When the proper approvals, restrictions, and monitoring controls are not in place or when staff utilize these devices negligently, they can be dangerous to residents in secure facilities. Virginia's current regulations impose very few restrictions on the use of mechanical restraints and the restraint chair. Furthermore, this chapter is completely silent with respect to rules governing the use of spit guards used to curtail spitting and biting, as well as other protective devices. These omissions could leave both staff and residents susceptible to injury and juvenile detention centers (JDCs) vulnerable to litigation.

Having each of these protections in place is essential to protect the health, safety, and welfare of residents, staff, and visitors in JDCs and individuals in the community. Having clear, concise regulations in place will help JDCs operate more safely and efficiently, thus meeting the overall rehabilitation and community safety goals of the department.

Substance:

The department recommends the following new provisions to the chapter:

6VAC35-101-630 and 6VAC35-101-635, incorporating the provisions of department-developed Guidelines for Transporting Juveniles in Detention, which establish rules related to vehicular transportation of detained juveniles,

transportation of violent and disruptive residents, and transportation of residents traveling outside the jurisdictional boundaries or to specified destinations.

6VAC35-101-1100, outlining new parameters for residents placed in room restriction, including residents restricted for safety and security or for violating a rule of the facility.

6VAC35-101-1105, outlining the protocol when JDCs place residents in disciplinary room restriction as a consequence for violating a facility rule and after the resident has been afforded the protections of the disciplinary process.

6VAC35-101-1130, 6VAC35-101-1140, 6VAC35-101-1145, 6VAC35-101-1153, 6VAC35-101-1154, 6VAC35-101-1155, 6VAC35-101-1156, 6VAC35-101-1157, and 6VAC35-101-1158, establishing new restrictions on the use of mechanical restraints, protective devices, including spit guards, and mechanical restraint chairs.

The department recommends several substantive amendments to existing language in this regulation:

Add language requiring JDCs that enter into agreements to detain residents under custody of a separate entity to document the agreement in writing, notify the department immediately of such agreement, and provide the department with a copy of the agreement. Remove the explicit provision mandating that facilities that fail to comply with a regulatory requirement must ensure this noncompliance will not pose a danger to residents. Remove the requirement that facility staff report serious incidents in accordance with department procedures.

Add provisions to reflect the statutory language that prohibits JDCs from hiring for employment or bringing on as volunteers or contractors certain individuals convicted of applicable barrier crimes. Remove the directive that every employee's records contain annual performance evaluations. Strike the requirement that the resident's face sheet include the address of the applicable Court Service Unit (CSU).

Allow facility administrators to identify in written procedures the critical safety, emergency, and communications equipment that must be inspected, tested, and maintained regularly. Modify the ratio of showers or bathtubs to residents for facilities constructed or structurally modified on or after December 28, 2007, from one-to-four to one-to-five. Expand the types of tobacco prohibited and the category of individuals precluded from using tobacco products in areas of the JDC premises where residents may see or smell the product. Strike the mandate that animals maintained on the premises be housed a reasonable distance from sleeping and living areas.

Amend the facility's emergency preparedness training requirements to cover the implementation of evacuation procedures that encompass all individuals with disabilities (e.g., visitors) who may be in the facility rather than focusing solely on residents with disabilities. Remove the facility administrator's broad authority to approve manual and instrumental anal or vaginal cavity searches and permit such searches only pursuant to court order, except in exigent

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circumstances in which the resident requires medical attention. Add language directing JDCs, when allowing third parties to assume temporary custody of residents for purposes of transportation, to provide these parties with written information known to the JDC concerning the immediate medical needs and mental health condition of the resident, including the resident's recent suicidal ideations or suicide attempts.

Replace references to physician with health care professional throughout the regulation in order to allow other health officials (e.g., nurses) within the facility to make decisions concerning (i) deprivation of food or water for legitimate medical purposes; (ii) administration of special diets or alternative dietary schedules; and (iii) whether the facility is capable of caring for residents with confirmed communicable diseases. Direct the facility to consider the resident's own views regarding the resident's safety in determining whether the resident is a member of a vulnerable population. Require that first class mail received for released or transferred residents be forwarded to the resident's last known address or forwarding address or returned to sender. Allow for an exception for certain specified purposes to the requirement that residents receive daily opportunities to shower provided required approvals are obtained and the exception is authorized in written procedures. Permit special diets, with required approvals, for residents who have used food or utensils to threaten facility security.

Require facilities to conduct a general assessment of the resident's physical condition during the admission process and prohibit the facility from admitting certain impaired individuals, individuals in need of medical attention, or individuals who require immediate emergency medical treatment, until they have been medically cleared for admission. Remove the requirement that a resident receive orientation before being assigned to a housing unit or sleeping room. Allow JDCs to supplement the mental health screening instrument used to conduct the statutorily mandated screenings with additional questions or observations. Allow the facility to establish the manner by which the identity of individuals making entries into the daily log will be recorded. Restrict a resident's ability to assist in support functions to those tasks that are part of the established, structured program. Modify the required staffing ratios from one-to-10 to one-to-18 during resident waking hours and direct JDCs to develop, implement, and document a staffing plan providing for adequate staffing and video monitoring, where applicable. Strike the requirement that a resident's paid or unpaid work assignments accord with the resident's individual service plan.

Mandate that first aid kits be maintained in facility vehicles used to transport residents. Expand the list of entities a staff member may contact to respond to a medication incident to include a hospital. Explicitly exclude from the definition of medication incident a JDC's failure to administer medication due to repeated unsuccessful attempts to obtain the medication.

Explicitly establish the parameters that must be addressed in written procedures regarding cooling-off periods related to communication, staff monitoring, and documentation. Require the facility administrator to collect information specifically on the use of room restriction and cooling-off periods and to review the information annually to inform the facility's practices. Remove the JDC's duty to document the rationale for failing to complete the disciplinary report within the required 12 hours, or the appeal within the required 24 hours, if the delay results from the resident's scheduled sleeping hours. Remove the facility's duty to notify the resident in writing of the results of a disciplinary appeal, instead allowing the resident and staff to certify in writing that the resident was informed of the appeal results. Strike the provision that makes the duty to place a disciplinary report in the resident's case record contingent upon a guilty outcome in a disciplinary proceeding. Expand the information that must be addressed in written procedures governing room restriction to include its consequences, factors to consider before restricting a resident, circumstances under which a resident should be debriefed, and the conditions that warrant consultation with a mental health professional and expanded monitoring for restricted residents exhibiting self-injurious behavior. Increase the frequency of required room checks during room restriction from 30-minute intervals to 15-minute intervals. Clarify that the type of daily exercise that JDCs must afford restricted residents is large muscle exercise and allow for exceptions only if approved by the facility administrator or the facility administrator's designee. Require the facility administrator or the facility administrator's designee to provide written approval, including a rationale for why the continued room restriction is necessary, for any room restriction beyond 24 hours. Require a qualified mental health professional (QMHP) or qualified medical professional to conduct an assessment of a resident's mental health and medical status if the room restriction is anticipated to exceed 72 hours. The assessment must occur within the initial 72-hour room restriction period and on a daily basis following the 72-hour period until the resident is released from restriction. Expand the individuals authorized to extend room restriction beyond five days to include QMHPs, in addition to medical providers. Direct the facility administrator, as part of the facility administrator's daily personal contact with each restricted resident, to assess and document whether nondisciplinary-restricted residents are prepared to return to general population and whether any restricted resident requires a mental health evaluation. Provide that residents placed in room restriction may not be housed more than one to a room. Prohibit JDCs from restricting legally required educational programming or special education services during disciplinary room restriction. Remove the facility administrator's absolute bar on restricting reading and writing and mandate that the facility administrator provide opportunities for these activities according to the restricted resident's safety and security needs. Impose a number of restrictions on the use of spit guards in juvenile detention centers. At original publication, this form reflected the board's May 6, 2019, decision to prohibit staff

from using spit guards on residents for any period. The board reconsidered and overturned this decision on March 11, 2020, and amendments to the regulation will allow JDC staff to use spit guards on residents but limit the types of spit guards that may be used and the manner in which they may be applied. Impose additional restrictions on the purposes for which mechanical restraints and the mechanical restraint chair may be used. Impose other restrictions and controls on the use of mechanical restraints, protective devices, and restraint chairs, including, for example, limiting the duration of use, requiring certain medical staff to be notified at various stages of the process, imposing various additional documentation requirements, requiring staff to film use of the chair, requiring DJJ monitoring visits for each restraint chair use, and requiring annual reporting to and review by the board. Specify that JDC staff may secure residents to hospital beds or wheelchairs if in outside medical settings and with certain written approval. Allow JDCs to have a system of accountability in place rather than a written record of routine and emergency restraint equipment distribution. Clarify that staff must first take appropriate action to stabilize the threat or harm when a mechanically restrained resident exhibits self-injurious behavior, before consulting with a mental health professional.

Replace the board with the director as the entity authorized to certify JDC post-dispositional programs and remove the requirement that this approval be based on the facility's compliance with the postdispositional regulatory provisions.

To make the regulation easier to navigate, the department is recommending rearranging a number of the personnel-related provisions addressing background checks, orientation, and training for employees and certain contractors and volunteers in JDCs. This necessitates the repeal of an entire article on volunteers and interns and the creation of several new provisions in another article to incorporate these repealed provisions.

Issues: Many of the amendments proposed in this regulatory action are expected to be advantageous to the public. As a result of the proposed additional monitoring and documentation requirements for residents placed in room restriction and on cooling-off periods, resident safety and facility security will be enhanced. JDCs will be equipped with additional information to determine the effectiveness and benefits of their behavior management programs and intervention techniques. Safety will be enhanced among JDC staff and residents due to modified staff to resident ratios, compliance with the PREA mandates, and expanded smoking prohibitions.

Similarly, additional controls placed on the use of mechanical restraints, protective devices, and the mechanical restraint chair will help to ensure that residents who are mechanically restrained due to behavior that threatens themselves or others or impedes critical facility operations will be restrained in a manner that ensures their safety.

Department of Planning and Budget's Economic Impact Analysis:

Summary of the Proposed Amendments to Regulation. The Board of Juvenile Justice (Board) proposes to: 1) adopt additional safeguards for the use of mechanical restraints and mechanical restraint chairs and new requirements for spit guards, 2) adopt additional safeguards for room confinement, 3) incorporate in the regulation staffing ratios of the federal 2003 Prison Rape Elimination Act, 4) reduce the number of showers or bathtubs required for residents, 5) exclude certain types of medication incidents from documentation requirements, 6) incorporate current guidance on transportation of juveniles in detention into the regulation, 7) require that a first-aid kit be maintained in facility and in transport vehicles, 8) clarify that facilities serving residents under custody of separate entities have contracts in writing and that this be communicated to the Department of Juvenile Justice (DJJ), and 9) streamline many existing requirements and clarify regulatory language.

Background. This regulation establishes the minimum standards with which staff in secure juvenile detention centers must comply. These facilities are operated by local governments or groups thereof (commissions), but are subject to certification by the board. The primary purpose of the regulation is to ensure safety and security within these facilities. The regulation addresses personnel and staffing requirements, physical environment, facility safety and security, residents' rights, program operations, health care, and behavior management for juvenile detention centers operating pre-dispositional programs solely or both pre-dispositional and post-dispositional programs.

This regulatory action includes comprehensive amendments. The proposed amendments are the result of a review of this chapter conducted by DJJ staff, representatives from the Virginia Juvenile Detention Association, various state agencies, and several juvenile justice advocates.

Estimated Benefits and Costs. This action contains proposals for numerous changes. Some of the changes are intended to limit the use of various types of restraints; many are intended to eliminate requirements that the Board either believes are impractical or that impose small but undue burdens on regulated facilities; remaining changes would improve the clarity of the language. The changes that appear to be substantive are discussed.

Mechanical restraints and chairs. The proposal amends the language regarding the use of mechanical restraints¹ and mechanical restraint chairs,² and adds new language allowing the use of spit guards³ so long as certain precautions are taken. According to DJJ, the use of mechanical restraints, and more specifically, the mechanical restraint chair in secure juvenile facilities has generated significant controversy in recent years. When the proper approvals, restrictions, and monitoring controls are not in place or when staff utilize these devices negligently, they can be dangerous to residents in secure

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facilities. In addition, this regulation currently is silent with respect to rules governing the use of spit guards used to curtail spitting and biting, as well as other protective devices. The current regulation imposes few restrictions on the use of mechanical restraints and the restraint chair.

The proposal places additional restrictions on the purposes for which mechanical restraints and the mechanical restraint chair may be used, and imposes other restrictions and controls on the use of mechanical restraints and restraint chairs, including, for example: training, limiting the duration of use, requiring certain medical staff to be notified at various stages of the process, imposing various additional documentation requirements, requiring staff to film use of the chair, requiring DJJ monitoring visits for each restraint chair use, and requiring annual reporting to and review by the board. DJJ reports that these provisions are consistent with the National Commission on Correctional Health Care Standards for Health Services in Juvenile Detention and Confinement Facilities.

The proposed amendments are expected to impose additional administrative costs for those detention centers that opt to utilize the mechanical restraints/restraint chair and do not have the video equipment, sufficient staff, trained staff, or adequate electronic or other storage space to meet the new requirements. DJJ indicates that there are 12 or 13 facilities that currently utilize or have the mechanical restraint chair. An estimate of the cost cannot be provided at this time, as it is not clear which facilities would continue utilizing the mechanical restraint chair and the extent to what additional equipment or staff would be necessary. These changes however would also help ensure their proper use, enable the department to assess whether the facility has complied with the new regulatory requirements, and that residents who are restrained due to behavior that threatens themselves or others or impedes critical facility operations are restrained in a manner that ensures their safety.

The proposal also adds new language regarding the use of spit guards to control the transmission of communicable diseases and prevent other injuries to staff and residents. The proposed language limits the types of spit guards that may be used and the manner in which they may be applied. Staff must be trained and documentation must be maintained whenever spit guards are utilized. Compliance with the new requirements when utilizing spit guards would introduce additional costs associated with training and documentation of procedures followed and should help ensure their proper use. To the degree that the effectiveness of spit guards improves with their use as prescribed leads to a decrease in the spread of communicable diseases, a benefit would be conferred upon the individuals who would otherwise contract the disease and any costs that may result.

Room confinement. The Board proposes to introduce additional restrictions for room confinement to ensure adequate monitoring protocols are in place, restriction periods are approved through proper channels, and medical and mental

health professionals are assessing the impact on residents who are on room restriction for extended periods.⁴ The board proposes relevant amendments that include increasing the frequency of required room checks during room restriction from 30-minute intervals to 15-minute intervals, requiring the facility administrator or his designee to provide written approval for any room restriction beyond 24 hours, and requiring a qualified medical professional to conduct an assessment of a resident's mental health and medical status if the room restriction is anticipated to exceed 72 hours. According to DJJ, these changes reflect the national trend towards more monitoring protocols and additional opportunities for resident/staff interaction.

The enhanced mental and medical health assessment requirements for residents restricted in excess of 72 hours constitutes a mandate for detention centers and Community Service Boards (CSBs) that would create additional administrative costs for CSBs responsible for conducting mental health assessments and addressing residents' mental health needs. DJJ notes that very few detention centers have mental health clinicians on staff and must rely primarily on local CSBs to provide these services. To the extent such services are not subsidized by the Commonwealth, they must be funded by localities.

These new, more specific directives may create additional monitoring, data-gathering and analysis responsibilities for staff in detention centers, which may require additional positions or an update to existing systems or software and may result in an increased workload for existing staff. DJJ indicates that vast majority of facilities utilize room confinement. While these changes are anticipated to impose significant additional administrative responsibilities on detention center staff that may necessitate hiring additional personnel, the changes would help ensure that room restriction is administered in a manner that is safe for both residents and staff and produces the most positive outcome for residents.

Federal Prison Rape Elimination Act.

In 2003, Congress enacted the Prison Rape Elimination Act (PREA) to "provide for the analysis of the incidence and effects of prison rape in federal, state, and local institutions and to provide information, resources, recommendations, and funding to protect individuals from prison rape." The act created a commission charged with developing standards for the elimination of prison rape. The final rule for these standards became effective in 2012; however, juvenile correctional facilities had until October 2017 to comply with the standards related to staffing requirements and staffing ratios. According to DJJ the staffing ratios in the PREA provide a safe and reasonable benchmark for ensuring the safety of residents.

The proposal would modify the direct care employee to resident staffing ratio from 1:10 to 1:8 during waking hours on the premises, or during participation in off-campus, facility sponsored activities, in order to comply with the standards applicable to juvenile residential facilities under PREA. DJJ

reports that many detention centers have adopted written procedures or are employing practices that align with PREA's mandates. In the event that a specific detention center does not meet the proposed ratio currently, this proposed change may result in additional personnel costs. If additional personnel are needed, such additional costs would be borne by the locality or commission responsible for the facility's operation. On the other hand, an increased staffing ratio would help ensure that residents are accounted for and properly monitored, which may reduce the likelihood of injuries or other incidents.

Ratio of showers or bathtubs to residents.

The proposal amends the ratio of showers or bathtubs to residents in new facilities that may be constructed to require one shower or tub for every five, rather than four, residents. This proposal would give localities seeking to construct new detention centers or renovate existing facilities additional space for programming and may decrease construction or facility operational costs. According to DJJ, two detention centers are currently in the planning phase for a new or renovated facility.

Medication incidents. The proposal changes the definition of medication incidents to exclude a detention center's unsuccessful attempts to obtain medication. This change would reduce some of the administrative burden associated with documentation of these specific incidents.

Information to external parties. Detention centers are responsible for transporting their residents to local medical and dental appointments and local psychological and psychiatric evaluations but are not required to transport them to appointments outside Virginia's geographical boundaries or more than 25 miles, one way, from the facility. The proposal incorporates requirements from the Guidelines for Transporting Juveniles in Detention, which were issued by the Board in 2004 to establish administrative and safety guidelines local detention center staff must follow when transporting or allowing others to transport residents outside the facility. As these changes are part of existing guidelines that have been incorporated by reference into the regulation and have been in place for detention centers since 2004, this proposed amendment would have no additional impact on residents, staff, or facility operations.

First-aid kits. The proposal adds language requiring that a first-aid kit be maintained within the facility and in facility vehicles used to transport residents. This amendment is intended to help staff of facilities respond to minor resident injuries while on premises and in transporting residents off-site. According to DJJ, most facilities have a fleet of vehicles for these purposes, and many already maintain first aid kits in their vehicles to comply with local ordinances. Thus, facilities are not expected to incur significant additional expenses because most already meet this requirement.

Residents under custody of separate entities.⁵

According to DJJ, at least one juvenile detention center currently contracts with the federal government to house

residents under the federal government's custody. This program operates separately from the facility's pre-dispositional and post-dispositional programs. DJJ recently identified a gap in its certification authority that prevented the certification unit from inspecting and reviewing files of and interviewing residents under the federal government's custody. This gap had prevented DJJ from verifying such facilities' compliance with its regulations and from ensuring the safety of the program participants. DJJ previously addressed this issue in 2019 through a fast-track regulatory action⁶ requiring these contracts to include provisions that bind the program to the department's certification regulations and that give the department access to residents within the program. This proposal includes additional amendments to the regulatory requirements adopted as part of the previous fast-track change. These proposed changes would clarify that such contracts must be in writing and communicated to the department, which would not introduce any additional significant costs.

Businesses and Other Entities Affected. The Board currently regulates 24 detention centers operated by local governments or local commissions.⁷ The average daily population statewide was 521 in fiscal year 2019 and 452 in fiscal year 2020. The proposed changes to the regulatory provisions would affect these facilities as well as their staff and residents.

As discussed, detention centers that have been utilizing or opt to use mechanical restraints, mechanical restraint chair, spit guards, and room confinement would be most significantly affected due to added costs in terms of training, staffing, and equipment to comply with the proposed requirements. DJJ indicates that there are 12 or 13 facilities that currently utilize or have a mechanical restraint chair and that vast majority of facilities utilize room confinement. An adverse economic impact⁸ is indicated on those affected facilities. The proposals for reduced shower or bathtub ratio and excluding certain medication incidents from reporting should reduce compliance costs. The remaining changes do not appear to have a significant economic impact.

Local CSBs may also be affected due to the enhanced mental and medical health assessment requirements for residents placed in room confinement. No data are current available to assess any potential costs that may result.

Small Businesses⁹ Affected:

The proposed regulation may indirectly affect small businesses only insofar as a small business provides a program or service subject to this regulation. Some of these businesses may meet the definition of a small business and may be publicly or privately operated. DJJ does not have sufficient information to determine the number of businesses that contract with local detention centers, the number of such businesses that meet the definition of small businesses, or the extent to which such businesses would be impacted by the proposed amendments. Also, none of the proposed changes appears to have a direct economic impact on businesses. Thus, no adverse impact on small business is indicated.

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Localities¹⁰ Affected.¹¹

As stated, the 24 juvenile detention centers are operated by local governments or local commissions. These facilities are located in City of Charlottesville, City of Chesapeake, Chesterfield County, Prince George County, County of Fairfax, Henrico County, City of Bristol/Highland County, Powhatan County, Leesburg/Loudoun County, City of Lynchburg, James City County, City of Newport News, Christiansburg/Montgomery County, City of Norfolk, City of Alexandria, City of Winchester, Prince Edward County, Prince William County, City of Fredericksburg, City of Richmond, City of Roanoke, Staunton County, City of Virginia Beach, and City of Danville.

To the extent the proposed additional training, monitoring, and documentation requirements are applicable, they are anticipated to result in additional costs for local juvenile detention centers, which would be borne by the locality or commissions responsible for their operation. The proposed amendments regarding mechanical restraints, restraint chairs, spit guards, and room confinement would impact only those detention centers that utilize them. DJJ indicates that there are 12 or 13 facilities that currently utilize or have a mechanical restraint chair and that vast majority of facilities utilize room confinement. There are two detention centers currently in the planning phase for a new or renovated facility and may benefit from the reduced shower or bathtub ratio. The juvenile detention center located in Staunton County currently contracts with the federal government to house residents under the federal government's custody, which would be particularly affected by the changes discussed under the heading "Residents under custody of separate entities." Consequently, an adverse economic impact on localities is indicated.

Projected Impact on Employment. The proposed additional training, monitoring, and documentation requirements would add to the demand for labor by the affected facilities. Consequently, there may be a moderate increase in employment.

Effects on the Use and Value of Private Property. The proposed amendments do not affect private property or real estate development costs.

¹"Mechanical restraint" is defined as an approved mechanical device that involuntarily restricts the freedom of movement or voluntary functioning of a limb or portion of an individual's body as a means of controlling his physical activities when the individual being restricted does not have the ability to remove the device. For purposes of this chapter, mechanical restraints shall include flex cuffs, handcuffs, leather restraints, leg irons, restraining belts and straps, waist chains, and anti-mutilation gloves. For purposes of this chapter, mechanical restraints shall not include mechanical restraint chairs.

²"Mechanical restraint chair" is defined as an approved chair used to restrict the freedom of movement or voluntary functioning of a portion of an individual's body as a means of controlling his physical activities while the individual is seated and either stationary or being transported.

³"Spit guard" is defined as a device designed for the purpose of preventing the spread of communicable diseases as a result of spitting or biting.

⁴DJJ notes that Senate Bill 215 introduced during the 2016 Virginia General Assembly session would have required promulgation of regulations that specified the parameters for imposing room confinement in juvenile correctional centers and juvenile detention centers. Although the legislation ultimately failed, it prompted DJJ to make room confinement a focal point for examination during the comprehensive review of this chapter.

⁵DJJ notes that during the 2020 legislative session the General Assembly enacted legislation (2020 Acts of Assembly, Chapter 599) directing the Board, in collaboration with the Department of Behavioral Health and Developmental Services to establish regulations governing the housing of such youth who are detained in a juvenile correctional facility pursuant to contracts with the federal government. In order to carry out this directive, DJJ has convened a committee of representatives from juvenile detention centers, DJJ staff, the Office of Refugee Resettlement, and the Department of Behavioral Health and Developmental Services. DJJ anticipates filing a separate regulatory action once this committee completes its work.

⁶<https://townhall.virginia.gov/ViewStage.cfm?stageid=8371>

⁷Data source: DJJ

⁸Adverse impact is indicated if there is any increase in net cost or reduction in net revenue for any entity, even if the benefits exceed the costs for all entities combined.

⁹Pursuant to § 2.2-4007.04 of the Code of Virginia, small business is defined as "a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million."

¹⁰"Locality" can refer to either local governments or the locations in the Commonwealth where the activities relevant to the regulatory change are most likely to occur.

¹¹§ 2.2-4007.04 defines "particularly affected" as bearing disproportionate material impact.

Agency Response to the Economic Impact Analysis: The responsible Board of Juvenile Justice agency representatives have reviewed the Department of Planning and Budget's economic impact analysis and are in agreement with the analysis.

Summary:

The proposed amendments (i) adopt additional safeguards for the use of mechanical restraints and mechanical restraint chairs and new requirements for spit guards, (ii) adopt additional safeguards for room confinement, (iii) incorporate staffing ratios of the federal 2003 Prison Rape Elimination Act, (iv) reduce the number of showers or bathtubs required for residents, (v) exclude certain types of medication incidents from documentation requirements, (vi) incorporate current guidance on transportation of juveniles in detention into the regulation, (vii) require that a first-aid kit be maintained in facility and in transport vehicles, (viii) clarify that facilities serving residents under custody of separate entities have contracts in writing and that this be communicated to the Department of Juvenile Justice, and (ix) streamline existing requirements and clarify regulatory language.

6VAC35-101-10. Definitions.

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"Annual" means within 13 months of the previous event or occurrence.

"Aversive stimuli" means physical forces, such as sound, electricity, heat, cold, light, water, or noise, or substances, such as hot pepper, pepper sauce, or pepper spray, measurable in duration and intensity that, when applied to a resident, are noxious or painful to the resident.

"Behavior management" means ~~those~~ the principles and methods employed to help a resident achieve positive behavior and to address and correct a resident's inappropriate behavior in a constructive and safe manner in accordance with written procedures governing program expectations and resident and ~~employee~~ staff safety and security.

"Board" means the Board of Juvenile Justice.

"Case record" ~~or "record"~~ means written ~~or electronic~~ information ~~relating to one~~ regarding a resident and the resident's family, if applicable. This information includes, ~~but is not limited to,~~ social, medical, psychiatric, and psychological records; reports; demographic information; agreements; all correspondence relating to care of the resident; individual service plans with periodic revisions; aftercare plans and ~~discharge~~ release summary; and any other information related to the resident.

"Contraband" means ~~any~~ an item possessed by or accessible to a resident or found within a detention center or on its premises that (i) ~~that~~ is prohibited by statute, regulation, or the facility's procedure, (ii) ~~that~~ is not acquired through approved channels or in prescribed amounts, or (iii) ~~that~~ may jeopardize the safety and security of the detention center or individual residents.

"Contractor" means an individual who has entered into a legal agreement with a secure juvenile detention center to provide services directly to a resident on a regular basis.

"Cooling-off period" means a temporary period in which a resident either is placed or voluntarily places himself in a room or area for a maximum period of 60 minutes to calm the resident or deescalate a volatile situation.

"Department" means the Department of Juvenile Justice.

"Detention center" or "secure juvenile detention center" means a local, regional, or state, publicly or privately operated, secure custody facility that houses individuals who are ordered to be detained pursuant to the Code of Virginia. This term does not include juvenile correctional centers.

"Direct care staff" means the staff whose primary job responsibilities are (i) maintaining the safety, care, and well-being of residents, (ii) implementing the structured program of care and the behavior management program, and (iii) maintaining the security of the facility.

"Direct supervision" means the act of working with residents while not in the presence of direct care staff. Staff members

who provide direct supervision are responsible for maintaining the safety, care, and well-being of the residents in addition to providing services or performing the primary responsibilities of that position.

"Director" means the ~~Director~~ director of the ~~Department of Juvenile Justice~~ department.

"Disciplinary room restriction" means the placement of a resident in room restriction as a consequence after application of the disciplinary process, as provided for in 6VAC35-101-1080 for a violation of a rule of the facility.

"Emergency" means a sudden, generally unexpected occurrence or set of circumstances demanding immediate action, such as a fire, chemical release, loss of utilities, natural disaster, ~~taking of hostages~~ hostage situation, major ~~disturbances~~ disturbance, escape, ~~and or bomb threats~~ threat. Emergency does not include regularly scheduled employee time off or other situations that reasonably could be ~~reasonably~~ anticipated.

"Facility administrator" means the individual who ~~has the responsibility~~ is responsible for the on-site management and operation of the detention center on a regular basis.

"Full search" means the removal of some or all of a resident's clothing and a visual inspection of all body parts, including vaginal and anal cavity areas, in order to determine whether contraband is present or to inspect for physical injuries.

"Health care record" means the complete record of medical screening and examination information and ongoing records of medical and ancillary service delivery including, ~~but not limited to,~~ all findings, diagnoses, treatments, dispositions, and prescriptions and their administration.

"Health care services" means ~~those actions,~~ preventative and therapeutic, actions taken for the physical and mental well-being of a resident. Health care services include medical, dental, orthodontic, mental health, family planning, obstetrical, gynecological, health education, and other ancillary services.

"Health trained personnel" means an individual who is trained by a licensed health care provider to perform specific duties such as administering health care screenings, reviewing screening forms for necessary follow-up care, ~~preparing residents and records for sick call,~~ responding to resident medical concerns, and assisting in the implementation of certain medical orders.

"Human research" means a systematic investigation, including research development, testing, and evaluation utilizing human subjects that is designed to develop or contribute to generalized knowledge. Human research shall not be deemed to include research exempt from federal research regulation pursuant to 45 CFR 46.101(b).

"Individual service plan" ~~or "service plan"~~ means a written plan of action developed, revised as necessary, and reviewed

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at specified intervals to meet the needs of a resident. The individual service plan specifies (i) measurable short term and long term goals; (ii) the objectives, strategies, and time frames for reaching the goals; and (iii) the individuals responsible for carrying out the plan.

"Legal mail" means a written communication that is sent to or received from a designated class of correspondents, as defined in written procedures, which shall include any court, legal counsel, or administrator of the grievance system, the governing authority, the department, or the regulatory authority.

"Legal representative" means (i) a court-appointed or retained attorney or a paralegal, investigator, or other representative from that attorney's office; or (ii) an attorney visiting for the purpose of a consultation if requested by the resident or the resident's parent if the resident is a minor.

"Living unit" means the space in a detention center in which a particular group of residents resides that contains sleeping areas rooms, bath and toilet facilities, and a living room or its equivalent for use by the residents. Depending upon its design, a building may contain one living unit or several separate living units.

"Mechanical restraint" means an approved mechanical device that involuntarily restricts the freedom of movement or voluntary functioning of a limb or portion of an individual's body as a means of controlling the individual's physical activities when the individual being restricted does not have the ability to remove the device. For purposes of this chapter, mechanical restraints shall include flex cuffs, handcuffs, leather restraints, leg irons, restraining belts and straps, waist chains, and anti-mutilation gloves. For purposes of this chapter, mechanical restraints shall not include mechanical restraint chairs.

"Mechanical restraint chair" means an approved chair used to restrict the freedom of movement or voluntary functioning of a portion of an individual's body as a means of controlling the individual's physical activities while the individual is seated and either stationary or being transported.

"Medication incident" means any one of the following errors made in administering a medication to a resident: (i) a resident is given incorrect medication, (ii) medication is administered to the incorrect resident, (iii) an incorrect dosage is administered, (iv) medication is administered at the wrong time or not at all, or (v) the medication is administered through an improper method. For purposes of this regulation, a medication incident does not include (i) a resident's refusal of appropriately offered medication; or (ii) a facility's failure to administer medication due to repeated, unsuccessful attempts to obtain such medication.

"Mental health clinician" means a person with a master's degree or higher in psychology, counseling, or social work

with an emphasis on mental health treatment who is employed in the practice of treating mental disorders.

"On duty" means the period of time during which an employee is responsible for the direct care or direct supervision of one or more residents or the performance of the position's duties.

"Parent" or "legal guardian" means (i) a biological or adoptive parent who has legal custody of a resident, including either parent if custody is shared under a joint decree or agreement; (ii) a biological or adoptive parent with whom a resident regularly resides; (iii) a person judicially appointed as a legal guardian of a resident; or (iv) a person who exercises the rights and responsibilities of legal custody by delegation from a biological or adoptive parent, upon provisional adoption, or otherwise by operation of law.

"Physical restraint" means the application of behavior intervention techniques involving a physical intervention to prevent an individual from moving all or part of that individual's body.

"Postdispositional detention program" means a program in a detention center serving residents who are subject to a sentence or dispositional order for placement in the detention center for a period exceeding 30 days pursuant to subdivision A 16 of § 16.1-278.8 and subsection B of § 16.1.284.1 of the Code of Virginia.

"Premises" means the tracts of land on which within the secure perimeter where any part of a detention center is located and any buildings on such tracts of land.

"Protective device" means an approved device placed on a portion of a resident's body to protect the resident or staff from injury.

"Qualified mental health professional" means a person who by education and experience is professionally qualified and registered by the Board of Counseling to provide collaborative mental health services for adults or children.

"Regulatory authority" means the board or the department as if designated by the board.

"Resident" means an individual who is confined in a detention center.

"Rest day" means a period of not less than 24 consecutive hours during which a staff person has no responsibility to perform duties related to supervision in a detention center.

"Room restriction" means the involuntary restriction of a resident to a sleeping room, except during normal sleeping hours, for the purpose of (i) ensuring the safety of the resident, staff, or others; (ii) ensuring the security of the facility; or (iii) holding the resident accountable for a violation of a rule of the facility. For purposes of this regulation, room restriction shall include disciplinary room restriction but shall not include any cooling-off period.

"Rules of conduct" means a ~~listing~~ list of a detention center's rules or regulations that is maintained to inform residents and others of the behavioral expectations of the behavior management program, ~~about~~ behaviors that are not permitted, and ~~about~~ the sanctions that may be applied when impermissible behaviors occur.

"Spit guard" means a device designed for the purpose of preventing the spread of communicable diseases as a result of spitting or biting.

"Volunteer or intern" means an individual or group who voluntarily provides goods and services without competitive compensation and who is under the direction and authority of the detention center.

"Vulnerable population" means a resident or group of residents who has been determined by designated detention center staff as reasonably likely to be exposed to the possibility of being attacked or harmed, either physically or emotionally.

"Written" means the required information is communicated in writing. ~~Such writing may be available in either hard copy or in~~ electronic form.

6VAC35-101-20. Applicability.

Parts I (6VAC35-101-10 et seq.) through VIII (6VAC35-101-1070 et seq.) of this chapter apply to juvenile detention centers ~~for both that operate~~ predispositional ~~and or~~ postdispositional programs unless specifically excluded. Part IX (6VAC35-101-1160 et seq.) of this chapter ~~only~~ solely applies to detention centers operating postdispositional detention programs ~~for residents sentenced for a period exceeding 30 days pursuant to subdivision A 16 of § 16.1-278.8 and subsection B of § 16.1-284.1 of the Code of Virginia.~~

6VAC35-101-30. ~~Previous regulations terminated. (Repealed.)~~

~~This chapter replaces the Standards for the Interim Regulation of Children's Residential Facilities (6VAC 35-51) and the Standards for Juvenile Residential Facilities (6VAC35-140) for the regulation of all detention centers as defined herein. The Standards for the Interim Regulation of Children's Residential Facilities and the Standards for Juvenile Residential Facilities remain in effect for juvenile correctional centers and group homes, regulated by the board, until such time as the board adopts new regulations related thereto.~~

6VAC35-101-40. Certification.

A. The detention center shall ~~comply~~ maintain a current certification demonstrating compliance with the provisions of the Regulations Governing the Monitoring, Approval, and Certification of Juvenile Justice Programs and Facilities (6VAC35-20). The detention center shall:

1. Demonstrate compliance with this chapter, other applicable regulations issued by the board, and applicable statutes and regulations; and

2. Implement approved plans of action to correct findings of noncompliance; ~~and~~

3. ~~Ensure no noncompliances may pose any immediate and direct danger to residents.~~

B. Documentation necessary to demonstrate compliance with this chapter shall be maintained for a minimum of three years.

C. The current certificate shall be posted at all times in a place conspicuous to the public.

6VAC35-101-45. Contracts between juvenile detention centers and separate entities.

A. When a detention center enters into an agreement with a separate entity for the purpose of detaining a juvenile in the separate entity's custody, the agreement shall ~~provide that the program housing the juvenile shall be subject to 6VAC35-20, Regulation Governing the Monitoring, Approval, and Certification of Juvenile Justice Programs and Facilities.~~ satisfy the following requirements:

1. ~~For purposes of demonstrating compliance with this chapter, the agreement shall allow the department the same access to the detained juvenile and to the records and reports for the detained juvenile as is authorized currently under § 16.1-309.10 of the Code of Virginia and 6VAC35-20 for all other residents in the detention center.~~

2. ~~Nothing in this section shall prevent the detention center and the separate entity from agreeing that services and treatment shall exceed the requirements of this chapter for those youth in the custody of the separate entity.~~

1. The agreement shall be in writing;

2. The agreement shall require the program housing the juvenile to be subject to 6VAC35-20, Regulation Governing the Monitoring, Approval, and Certification of Juvenile Justice Programs and Facilities; and

3. For purposes of demonstrating compliance with this chapter, the agreement shall allow the department the same access to the detained juvenile and to the records and reports for the detained juvenile as is authorized currently under § 16.1-309.10 of the Code of Virginia and 6VAC35-20 for all other residents in the detention center.

B. Upon entering into the agreement, the detention center shall (i) notify the department immediately and (ii) provide a copy of the written agreement to the department.

C. Nothing in this section shall prevent the detention center and the separate entity from agreeing that services and treatment shall exceed the requirements of this chapter for those youth in the custody of the separate entity.

6VAC35-101-50. Relationship to the regulatory authority.

A. All reports and information as the regulatory authority may require to establish compliance with this chapter and other

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applicable regulations and statutes shall be submitted to or made available to the ~~regulatory authority~~ audit team leader.

B. A written report of any contemplated changes in operation that would affect the terms of the certificate or the continuing eligibility for certification shall be submitted to the regulatory authority. A change may not be implemented prior to approval by the regulatory authority.

6VAC35-101-60. Relationship with the department.

A. The director or the director's designee shall be notified within five working days of any significant change in administrative structure or newly hired facility administrator.

B. Any of the following that may be related to the health, safety, or human rights of residents shall be reported to the director or the director's designee within 10 days: (i) lawsuits against the detention center or its governing authority and (ii) settlements with the detention center or its governing authority.

6VAC35-101-70. Variances and waivers.

A. ~~Board action may be requested by the~~ A facility administrator may request board action to relieve a detention center from having to meet or develop a plan of action for the requirements of a specific section or subsection of this ~~regulation~~ chapter, provided the section or subsection is a noncritical regulatory requirement. The variance request may be granted either permanently or for a determined period of time, as provided in the Regulations Governing the Monitoring, Approval, and Certification of Juvenile Justice Programs and Facilities (6VAC35-20).

B. ~~Any such~~ A variance may not be implemented prior to approval of the board.

C. When the facility administrator has submitted a variance request to the director or the director's designee concerning a noncritical regulatory requirement and board action has been requested formally by the director or the director's designee, the director may, but is not required to, grant a waiver temporarily excusing the facility from meeting the requirements of a specific section or subsection of this chapter. The waiver shall be subject to the requirements in 6VAC35-20-93.

6VAC35-101-80. Serious incident reports.

A. The following events shall be reported, ~~in accordance with department procedures,~~ within 24 hours to (i) the applicable court service unit; (ii) either the parent or legal guardian, as appropriate and applicable; and (iii) the director or the director's designee:

1. ~~Any~~ A serious incident, accident, illness, or injury to the resident;
2. The death of a resident;
3. ~~Any~~ A suspected case of child abuse or neglect at the detention center, on a detention center-sponsored event or

excursion, or involving detention center staff as provided in 6VAC35-101-90 (suspected child abuse and neglect);

4. ~~Any~~ A disaster, fire, emergency, or other condition that may jeopardize the health, safety, and welfare of residents; and

5. ~~Any~~ A resident's absence from the detention center without permission.

B. The detention center shall notify the director or the director's designee within 24 hours of ~~any events detailed in subsection A of this section and all~~ any other situations event required by the regulatory authority of which the facility has been notified.

C. If an incident involving the death of a resident occurs at the facility, the facility shall notify the parents or legal guardians, as appropriate and applicable, of all residents in the facility provided such notice does not violate any confidentiality requirements or jeopardize any law-enforcement or child protective services investigation or the prosecution of any criminal cases related to the incident.

D. The facility shall (i) prepare and maintain a written report of the events listed in subsections A and B of this section and (ii) submit a copy of the written report to the director or the director's designee. The report shall contain the following information:

1. The date and time the incident occurred;
2. A brief description of the incident;
3. The action taken as a result of the incident;
4. The name of the person who completed the report;
5. The name or identifying information of the person who made the report to the applicable court service unit, the director, and ~~to~~ either the parent or legal guardian, as appropriate and applicable, and the date and time on which the report was made; and
6. The name or identifying information of the person to whom the report was made, including any law-enforcement or child protective service personnel.

E. ~~The resident's record shall contain a written reference (i) that an incident occurred and (ii) of all applicable reporting.~~

F. In addition to the requirements of this section, ~~any~~ serious incident incidents involving an allegation of child abuse or neglect at the detention center, at a detention center-sponsored event, or involving detention center staff shall be governed by 6VAC35-101-90 (~~suspected child abuse or neglect~~).

6VAC35-101-90. Suspected child abuse or neglect.

A. When there is reason to suspect that a resident is an abused or neglected child, the matter shall be reported immediately to the local department of social services or to the state Department of Social Services toll-free child abuse and neglect

hotline as required by § 63.2-1509 of the Code of Virginia and in accordance with written procedures.

B. Written procedures shall be distributed to all staff members and shall at a minimum provide for:

1. Handling accusations against staff;
2. Reporting and documenting suspected cases of child abuse and neglect;
3. Cooperating during ~~any~~ an investigation; and
4. Measures to be taken to ensure the safety of the residents and the staff.

C. ~~Any case~~ Cases of suspected child abuse or neglect against a resident shall be reported and documented as required in 6VAC35-101-80 (~~serious incident reports~~). The resident's record shall contain a written reference that a report was made.

6VAC35-101-95. Reporting criminal activity.

A. Written procedures shall require staff to report all known criminal activity suspected to have been committed by residents or staff to the facility administrator, ~~including but not limited to any physical abuse, sexual abuse, or sexual harassment and the offenses listed in §§ 53.1-203 (felonies by prisoners); 18.2-55 (bodily injuries caused by prisoners); 18.2-48.1 (abduction by prisoners); 18.2-64.1 (carnal knowledge of certain minors); 18.2-64.2 (carnal knowledge of an inmate, parolee, probationer, detainee, or pretrial or posttrial offender); and 18.2-477.1 (escapes from juvenile facility) of the Code of Virginia.~~

B. The facility administrator, in accordance with written procedures, shall notify the appropriate persons or agencies, including law enforcement, child protective services if applicable and appropriate, and the department, ~~if applicable and appropriate~~, of suspected criminal violations by residents or staff. ~~Suspected criminal violations relating to the health and safety or human rights of residents shall be reported to the director or designee.~~

C. The detention center shall assist and cooperate with the investigation of any such complaints and allegations as necessary, subject to restrictions in federal or state law.

6VAC35-101-100. Grievance procedure.

A. Written procedure shall provide require that residents are oriented to and have continuing access to a grievance procedure that provides for:

1. Resident participation in the grievance process with assistance from staff upon request;
2. Investigation of the grievance by an impartial, objective employee who is not the subject of the grievance;
3. Documented, timely responses to all grievances with the reasons for the decision, in accordance with written procedures;

4. At least one level of appeal;
5. Administrative review of grievances;
6. Protection of residents from retaliation or threat of retaliation for filing a grievance; and
7. Hearing of an emergency grievance within eight hours.

B. ~~Each resident~~ Residents shall be oriented to the grievance procedure in an age ~~or~~ and developmentally appropriate manner.

C. The grievance procedure shall be (i) written in clear and simple language and (ii) posted in an area easily accessible to residents and their parents and legal guardians.

D. Staff shall assist and work cooperatively with other employees in facilitating the grievance process.

6VAC35-101-110. Responsibilities of the governing authority.

A. The detention center's governing ~~body or~~ authority (~~governing authority~~) shall be clearly identified in writing.

B. The governing authority shall appoint a facility administrator to whom it delegates the authority and responsibility for the on-site administrative direction of the detention center.

C. A written decision-making plan shall be developed and implemented and shall provide for a staff person with the qualifications of a facility administrator to be designated to assume the temporary responsibility for the operation of the detention center in the absence of the facility administrator. Each plan shall include an organizational chart.

D. Written procedures shall be developed and implemented to monitor and evaluate service quality and effectiveness on a systematic and on-going basis. Improvements shall be implemented when indicated.

6VAC35-101-130. Participation of residents in human research.

A. ~~Written procedures approved by its governing authority shall govern the review, approval, and monitoring of human research. Human research means any systematic investigation, involving a resident or a resident's parents, guardians, or family members as the subject of the research, which may expose the subject to physical or psychological injury and which departs from the application of established and accepted therapeutic methods appropriate to meet the individual's needs. Human research does not include statistical analysis of information readily available on the subject that does not contain any identifying information or research exempted by federal research regulations pursuant to 45 CFR 46.101(b). Residents shall not be used as subjects of human research except as provided in 6VAC35-170 (Regulation Governing Juvenile Data Requests and Research Involving Human Subjects) and in accordance with Chapter 5.1 (§ 32.1-162.16 et seq.) of Title~~

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32.1 of the Code of Virginia. The testing of medicines or drugs for experimentation or research is prohibited.

B. Information on residents shall be maintained as provided in 6VAC35-101-330 (~~maintenance of residents' records~~) and all records and information related to the human research shall be kept confidential in accordance with applicable laws and regulations.

C. ~~The procedures may require periodic progress reports of any research project and a formal final report of all completed research projects.~~ Written procedures governing the human research of residents may be implemented in the facility, provided they are consistent with 6VAC35-170 and Chapter 5.1 (§ 32.1-162.16 et seq.) of Title 32.1 of the Code of Virginia.

6VAC35-101-140. Job descriptions.

A. There shall be a written job description for each position that, at a minimum, includes the:

1. Job title or position;
2. Duties and responsibilities of the incumbent;
3. Job title or identification of the immediate supervisor; and
4. Minimum education, experience, knowledge, skills, and abilities required for entry-level performance of the job.

B. A copy of the job description shall be given to each person assigned to a position ~~prior to~~ before assuming that position's duties.

6VAC35-101-150. Qualifications.

A. Detention centers subject to (i) the rules and regulations of the governing authority or (ii) the rules and regulations of a local government personnel office shall develop written minimum entry-level qualifications in accordance with the rules and regulations of the supervising personnel authority. ~~Detention centers not subject to rules and regulations of the governing authority or a local government personnel office shall follow the minimum entry level qualifications of the Virginia Department of Human Resource Management.~~

B. When services or consultations are obtained on a contractual basis, they shall be provided by professionally qualified personnel.

6VAC35-101-152. Selection and duties of volunteers or interns.

A. A detention center that uses volunteers or interns shall develop and implement written procedures governing their selection and use. The procedures shall provide for the objective evaluation of persons and organizations in the community who wish to associate with the residents.

B. Volunteers and interns shall have qualifications appropriate for the services provided.

C. The responsibilities of interns and individuals who volunteer on a regular basis shall be defined clearly in writing.

D. Volunteers and interns shall be responsible neither for the duties of direct care staff nor for the direct supervision of residents.

6VAC35-101-155. Employee tuberculosis screening and follow-up.

A. On or before the employee's start date at the facility and at least annually thereafter each employee shall submit the results of a tuberculosis screening assessment that is no older than 30 days. The documentation shall indicate the screening results as to whether there is an absence of tuberculosis in a communicable form.

B. Employees shall undergo a subsequent tuberculosis screening or evaluation, as applicable, in the following circumstances:

1. The employee comes into contact with a known case of infectious tuberculosis; ~~and~~ or
2. The employee develops chronic respiratory symptoms of three weeks' duration.

C. Employees suspected of having tuberculosis in a communicable form shall not be permitted to return to work or have contact with staff or residents until a physician has determined that the individual does not have tuberculosis in a communicable form.

D. ~~Any~~ An active case of tuberculosis developed by an employee or a resident shall be reported to the local health department in accordance with the requirements of the Commonwealth of Virginia State Board of Health Regulations for Disease Reporting and Control (12VAC5-90).

E. Documentation of ~~any~~ the screening results shall be retained in a manner that maintains the confidentiality of information.

F. The detection, diagnosis, prophylaxis, and treatment of pulmonary tuberculosis shall be performed in accordance with ~~any~~ the current recommendations of the Virginia Department of Health's Division of Tuberculosis Prevention and Control and the federal Department of Health and Human Services Centers for Disease Control and Prevention.

6VAC35-101-170. Employee ~~and~~ volunteer background checks.

A. Except as provided in subsection B of this section, all persons who (i) accept a position of employment at, (ii) ~~volunteer on a regular basis and will be alone with a resident in the performance of their duties, or (iii) provide contractual services directly to a resident on a regular basis and will be alone with a resident in the performance of that person's duties~~ a juvenile detention center shall undergo the following background checks in accordance with § 63.2-1726 of the

Code of Virginia to ascertain whether there are criminal acts or other circumstances that would be detrimental to the safety of residents:

1. A reference check;
2. A criminal history record check;
3. Fingerprint checks with the Virginia State Police and Federal Bureau of Investigation (~~FBI~~);
4. A central registry check with Child Protective Services; and
5. A driving record check if applicable to the individual's job duties.

B. To minimize vacancy time, when the fingerprint checks required by subdivision A 3 of this section have been requested, employees may be hired, pending the results of the fingerprint checks, provided:

1. All of the other applicable components of subsection A of this section have been completed;
2. The applicant is given written notice that continued employment is contingent on the fingerprint check results required by subdivision A 3 of this section; and
3. Employees hired under this exception shall not be allowed to ~~be alone work directly~~ with residents ~~and may work with residents only when under the direct supervision of staff whose background checks have been completed~~ until such ~~time as~~ all the requirements of this section are completed.

C. Documentation of compliance with this section shall be retained in the individual's personnel record as provided in 6VAC35-101-310 (~~personnel records~~).

D. Written procedures shall provide for the supervision of nonemployee persons, who are not subject to the provisions of subsection A of this section who have contact with residents.

E. No juvenile detention center shall hire for employment a person who has been convicted of a barrier crime listed in § 19.2-392.02 of the Code of Virginia, subject to the exceptions permitted under § 63.2-1726 of the Code of Virginia.

6VAC35-101-175. Contractor background checks.

A. A contractor who will be alone with a resident in the performance of the contractor's duties shall undergo the following background checks in accordance with § 63.2-1726 of the Code of Virginia to ascertain whether there are criminal acts or other circumstances that would be detrimental to the safety of residents.

1. A reference check;
2. A criminal history record check;
3. Fingerprint checks with the Virginia State Police and Federal Bureau of Investigation;

4. A central registry check with Child Protective Services; and

5. A driving record check if applicable to the individual's duties.

B. Documentation of compliance with this section shall be retained in the individual's personnel record as provided in 6VAC35-101-310.

C. No juvenile detention center shall hire for contract services a contractor who meets the requirements of subsection A of this section and who has been convicted of a barrier crime listed in § 19.2-392.02 of the Code of Virginia, subject to the exceptions permitted under § 63.2-1726 of the Code of Virginia.

6VAC35-101-177. Volunteer and intern background checks.

A. A person who volunteers or interns on a regular basis and will be alone with a resident in the performance of volunteer or intern duties in a juvenile detention center shall undergo the following background checks in accordance with § 63.2-1726 of the Code of Virginia to ascertain whether there are criminal acts or other circumstances that would be detrimental to the safety of residents:

1. A reference check;
2. A criminal history record check;
3. Fingerprint checks with the Virginia State Police and Federal Bureau of Investigation (FBI);
4. A central registry check with Child Protective Services; and
5. A driving record check if applicable to the individual's duties.

B. Documentation of compliance with the background check requirements shall be maintained for each volunteer or intern for whom a background check is required. The records shall be maintained in accordance with 6VAC35-101-310.

C. A detention center that uses volunteers or interns shall have procedures for supervising volunteers or interns on whom background checks are not required or whose background checks have not been completed who have contact with residents.

D. No juvenile detention center shall allow any person to volunteer who has been convicted of any barrier crime listed in § 19.2-392.02 of the Code of Virginia, subject to the exceptions permitted under subsection B of § 63.2-1726 of the Code of Virginia.

6VAC35-101-180. Required initial orientation for employees.

A. Initial orientation shall be provided to all full-time ~~and~~, part-time staff, ~~and~~ relief staff, ~~and~~ contractors who provide

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services to residents on a regular basis, in accordance with each position's job description.

B. Before the expiration of the individual's seventh work day at the facility, each employee shall ~~be provided with~~ receive a basic orientation on the following:

1. The facility;
2. The population served;
3. The basic objectives of the program;
4. The facility's organizational structure;
5. Security, population control, emergency preparedness, and evacuation procedures ~~as provided for in accordance with~~ 6VAC35-101-510 ~~(emergency and evacuation procedures)~~;
6. The practices of confidentiality;
7. The residents' rights, including the prohibited actions provided for in 6VAC35-101-650;
8. The basic requirements of and competencies necessary to perform in his ~~positions~~ position;
9. The facility's program philosophy and services;
10. The facility's behavior management program as provided for in 6VAC35-101-1070 ~~(behavior management)~~;
11. The facility's behavior intervention procedures and techniques, including the use of least restrictive interventions and physical restraint;
12. The residents' rules of conduct and responsibilities;
13. The residents' disciplinary process as provided for in 6VAC35-101-1080 ~~(disciplinary process)~~;
14. The residents' grievance procedures as provided for in 6VAC35-101-100 ~~(grievance procedure)~~;
15. Child abuse and neglect and mandatory reporting as provided for in 6VAC35-101-80 ~~(serious incident reports)~~ and 6VAC35-101-90 ~~(suspected child abuse or neglect)~~;
16. Standard precautions as provided for in 6VAC35-101-1010 ~~(infectious or communicable diseases)~~; and
17. Documentation requirements as applicable to the position's duties.

~~C. Volunteers shall be oriented in accordance with 6VAC35-101-300 (volunteer and intern orientation and training).~~

6VAC35-101-185. Required initial orientation for contractors.

A. Contractors shall receive an initial orientation regarding the expectations of working within a secure environment.

B. Contractors shall be oriented in their responsibilities in implementing the evacuation plan in the event of an emergency, in accordance with 6VAC35-101-510.

6VAC35-101-187. Required initial orientation for volunteers and interns.

Volunteers and interns shall be provided with a basic, initial orientation on the following:

1. The facility;
2. The population served;
3. The basic objectives of the facility;
4. The facility's organizational structure;
5. Security, population control, emergency, emergency preparedness, and evacuation procedures;
6. The practices of confidentiality;
7. Resident rights, including the prohibited actions provided for in 6VAC35-101-650; and
8. The basic requirements of and competencies necessary to perform their duties and responsibilities.

Article 4

Training and Retraining

6VAC35-101-190. Required initial training for employees.

~~A. Each full-time~~ Full-time and part-time ~~employee~~ employees and relief staff shall complete initial, comprehensive training that is specific to ~~the individual's~~ their occupational class, is based on the needs of the population served, and ensures that ~~the individual has~~ they have the competencies to perform the position's duties. Direct care staff shall receive at least 40 hours of training, inclusive of all training required by this section, in their first year of employment.

~~1. Direct care staff shall receive at least 40 hours of training, inclusive of all training required by this section, in their first year of employment.~~

~~2. Contractors shall receive training required to perform their position responsibilities in a detention center.~~

B. Within 30 days following the employee's start date at the facility or before the employee is responsible for the direct care or direct supervision of a resident, all direct care staff and staff who provide direct supervision of the residents shall complete training in the following areas:

1. Emergency preparedness and response as provided for in 6VAC35-101-510 ~~(emergency and evacuation procedures)~~;
2. The facility's behavior management program as provided for in 6VAC35-101-1070 ~~(behavior management)~~;
3. The residents' rules of conduct and the rationale for the rules;

4. The facility's behavior intervention procedures, ~~with including physical and mechanical restraint training and protective device training,~~ required as applicable to their duties and as required by subsection ~~D C~~ of this section, ~~and room restriction and disciplinary room restriction,~~ as provided for in 6VAC35-101-1100 and 6VAC35-101-1105;

5. Child abuse and neglect and mandatory reporting, as provided for in 6VAC35-101-80 ~~(serious incident reports)~~ and 6VAC35-101-90 ~~(suspected child abuse or neglect);~~

6. Maintaining appropriate professional boundaries and relationships;

7. ~~Interaction~~ Appropriate interaction among staff and residents;

8. Suicide prevention as provided for in 6VAC35-101-1020 ~~(suicide prevention);~~

9. Residents' rights, including ~~but not limited to~~ prohibited actions provided for in 6VAC35-101-650 ~~(prohibited actions);~~

10. Standard precautions as provided for in 6VAC35-101-1010 ~~(infectious or communicable diseases);~~ and

11. Procedures applicable to the ~~employees'~~ employee's position and consistent with ~~their~~ the employee's work ~~profiles~~ profile.

C. Employees who are authorized by the facility administrator to restrain a resident, as provided for in 6VAC35-101-1090 ~~(physical restraint)~~ and 6VAC35-101-1130 ~~(mechanical restraints)~~, and 6VAC35-101-1153 shall be trained in the facility's approved restraint techniques within 90 days of such authorization and ~~prior to~~ before applying any restraint techniques.

D. Employees who administer medication shall, prior to such administration, as provided for in 6VAC35-101-1060 ~~(medication)~~, and in accordance with the provisions of § 54.1-3408 of the Code of Virginia, either (i) have successfully completed a medication management training program approved by the Board of Nursing or (ii) be ~~licensed~~ certified by the Commonwealth of Virginia to administer medication.

~~E. When an individual is employed by contract to provide services for which licensure by a professional organization is required, documentation of current licensure shall constitute compliance with this section.~~

~~F. Volunteers and interns shall be trained in accordance with 6VAC35-101-300 (volunteer and intern orientation and training).~~

~~G. E.~~ Employees who perform the duties required in 6VAC35-101-800 ~~(admission and orientation)~~ shall be trained in the requirements contained therein.

6VAC35-101-195. Required initial training for contractors.

A. Contractors shall receive training required to perform their position responsibilities in a detention center.

B. When a contractor enters into an agreement to provide a resident with services for which licensure by a professional organization is required, documentation of licensure shall constitute compliance with this section.

6VAC35-101-197. Required initial training for volunteers and interns.

Volunteers and interns shall be trained within 30 days from their start date at the facility in the following:

1. Their duties and responsibilities in the event of a facility evacuation as provided for in 6VAC35-101-510; and
2. All other procedures that are applicable to their duties and responsibilities.

6VAC35-101-200. Retraining requirements for employees.

A. Each full-time and part-time employee and relief staff shall complete retraining that is specific to the individual's occupational class, the position's job description, and that addresses any professional development needs.

B. All full-time and part-time employees and relief staff shall complete an annual training refresher on the facility's emergency preparedness and response plan and procedures as provided for in 6VAC35-101-480 ~~(emergency and evacuation procedures)~~ 6VAC35-101-510.

C. All direct care staff shall receive at least 40 hours of training annually that shall include training on the following:

1. Suicide prevention as provided for in 6VAC35-101-1020 (suicide prevention);
2. Standard precautions as provided for in 6VAC35-101-1010 (infectious or communicable diseases);
3. Maintaining appropriate professional relationships;
4. ~~Interaction~~ Appropriate interaction among staff and residents;
5. Residents' rights, including ~~but not limited to~~ the prohibited actions provided for in 6VAC35-101-650 (prohibited actions);
6. Child abuse and neglect and mandatory reporting as provided for in 6VAC35-101-80 (serious incident reports) and 6VAC35-101-90 (suspected child abuse or neglect); and
7. Behavior intervention procedures, including room restriction and disciplinary room restriction, as provided in 6VAC35-101-1100 and 6VAC35-101-1105.

D. All staff approved to apply physical restraints, as provided for in 6VAC35-101-1090 ~~(physical restraint)~~ shall be trained as needed to maintain the applicable current certification.

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E. All staff approved to apply mechanical restraints, protective devices, or the mechanical restraint chair shall be retrained annually as required by 6VAC35-101-1130 (~~mechanical restraints~~) and 6VAC35-101-1153.

F. Employees who administer medication, as provided for in 6VAC35-101-1060 (~~medication~~), shall complete an annual refresher training, which shall, at a minimum, include a review of the components required in 6VAC35-101-1060.

~~G. When an individual is employed by contract to provide services for which licensure by a professional organization is required, documentation of current licensure shall constitute compliance with this section.~~

H. G. Staff who have not timely completed required retraining shall not be allowed to have direct care responsibilities pending completion of the required retraining requirements.

6VAC35-101-210. Written personnel procedures.

Written personnel procedures ~~approved by the governing authority or facility administrator~~ shall be developed, approved by the governing authority or facility administrator, implemented, and readily accessible to each staff member.

6VAC35-101-240. Notification of change in driver's license status.

Staff whose job responsibilities may involve transporting residents shall be required to (i) maintain a valid driver's license and (ii) report to the facility administrator or the facility administrator's designee any change in their driver's license status including ~~but not limited to~~ suspensions, restrictions, and or revocations.

6VAC35-101-250. Political activity.

Written procedures governing ~~any~~ campaigning, lobbying, and political activities conducted by employees ~~that are consistent with applicable statutes and state or local policies of the detention center~~ shall be developed and implemented. ~~The procedure shall be,~~ and made available to all employees. The written procedures shall be consistent with applicable statutes and state or local policies.

6VAC35-101-260. Physical or mental health of personnel.

When an individual poses a ~~direct threat~~ significant risk of substantial harm to the health and safety of a resident, others at the facility, ~~or the public, or the individual's self~~ or is unable to perform essential job-related functions, that individual shall be removed immediately from all duties involved in the direct care or direct supervision of residents. The facility may require a medical or mental health evaluation to determine the individual's fitness for duty ~~prior to~~ before returning to duties involving the direct care or direct supervision of residents. The results of any medical information or documentation of any disability-related inquiries shall be maintained separately from the employee's personnel records maintained in accordance with 6VAC35-101-310 (~~personnel records~~). ~~For the purpose of~~

~~this section a direct threat means a significant risk of substantial harm.~~

6VAC35-101-270. Definition of volunteers or interns. (Repealed.)

~~For the purpose of this chapter, volunteer or intern means any individual or group who of their own free will provides goods and services without competitive compensation.~~

6VAC35-101-280. Selection and duties of volunteers and interns. (Repealed.)

A. ~~Any detention center that uses volunteers or interns shall develop and implement written procedures governing their selection and use. Such procedures shall provide for the objective evaluation of persons and organizations in the community who wish to associate with the residents.~~

B. ~~Volunteers and interns shall have qualifications appropriate for the services provided.~~

C. ~~The responsibilities of interns and individuals who volunteer on a regular basis shall be clearly defined in writing.~~

D. ~~Volunteers and interns shall neither be responsible for the duties of direct care staff nor for the direct supervision of the residents.~~

6VAC35-101-290. Background checks for volunteers and interns. (Repealed.)

A. ~~Any individual who (i) volunteers on a regular basis or is an intern and (ii) will be alone with a resident in the performance of that person's duties shall be subject to the background check requirements in 6VAC35-101-170 A (employee and volunteer background checks).~~

B. ~~Documentation of compliance with the background check requirements shall be maintained for each intern and volunteer for whom a background check is required. Such records shall be kept in accordance with 6VAC35-101-310 (personnel records).~~

C. ~~A detention center that uses volunteers or interns shall have procedures for supervising volunteers or interns, on whom background checks are not required or whose background checks have not been completed, who have contact with residents.~~

6VAC35-101-300. Volunteer and intern orientation and training. (Repealed.)

A. ~~Volunteers and interns shall be provided with a basic orientation on the following:~~

- ~~1. The facility;~~
- ~~2. The population served;~~
- ~~3. The basic objectives of the facility;~~
- ~~4. The facility's organizational structure;~~

~~5. Security, population control, emergency, emergency preparedness, and evacuation procedures;~~

~~6. The practices of confidentiality;~~

~~7. The residents' rights, including but not limited to the prohibited actions provided for in 6VAC35-101-650 (prohibited actions); and~~

~~8. The basic requirements of and competencies necessary to perform their duties and responsibilities.~~

~~B. Volunteers and interns shall be trained within 30 days from their start date at the facility in the following:~~

~~1. Any procedures that are applicable to their duties and responsibilities; and~~

~~2. Their duties and responsibilities in the event of a facility evacuation as provided for in 6VAC35-101-510 (emergency and evacuation procedures).~~

6VAC35-101-310. Personnel records.

A. Separate, up-to-date written ~~or automated~~ personnel records shall be maintained on each (i) employee and (ii) volunteer or intern on whom a background check is required.

B. The personnel records of each employee shall include:

1. A completed employment application form or other written material providing the individual's name, address, phone number, and social security number or other unique identifier;

2. Educational background and employment history;

3. Documentation of required reference check;

~~4. Annual performance evaluations;~~

~~5. 4.~~ Date of employment for each position held and separation date;

~~6. 5.~~ Documentation of compliance with requirements of Virginia law regarding child protective services and criminal history background investigations;

~~7. 6.~~ Documentation of the verification of any educational requirements and of professional certification or licensure, if required by the position;

~~8. 7.~~ Documentation of all training required by this chapter and any other training received by individual staff; and

~~9. 8.~~ A current job description.

C. If applicable, health care records, including reports of any required health examinations, shall be maintained separately from the other records required by this section.

D. Personnel records on ~~contract service providers and contractors~~, volunteers, and interns may be limited to ~~the verification of the completion of any required~~ verifying that the applicable background checks have been completed as

required by 6VAC35-101-170 (~~employee and volunteer background checks~~).

6VAC35-101-330. Maintenance of residents' records.

A. A separate written ~~or automated~~ case record shall be maintained for each resident, ~~that~~ which shall include all correspondence and documents received by the detention center relating to the care of that resident and documentation of all case management services provided.

B. A separate health care record shall be kept on each resident. The resident's active health care records shall be kept in accordance with this section, 6VAC35-101-1030 (~~residents' health care records~~), ~~this section~~, and applicable laws and regulations.

C. Each case record and health care record shall be kept (i) up to date, (ii) in a uniform manner, and (iii) confidential from unauthorized access. Case records shall be released only in accordance with §§ 16.1-300 and 16.1-309.1 of the Code of Virginia and applicable state and federal laws and regulations.

D. Written procedures shall provide for the management of all records, ~~written and automated~~, and shall ~~describe~~ address confidentiality, accessibility, security, and retention of records pertaining to residents, including:

1. Access, duplication, dissemination, and acquisition of information only to persons legally authorized according to federal and state laws;

2. If automated records are utilized, the procedures shall address:

a. How records are protected from unauthorized access, including unauthorized Internet access or other unauthorized electronic access;

~~b. How records are protected from unauthorized Internet access;~~

~~c. How records are protected from loss;~~

~~d. How records are protected from unauthorized alteration; and~~

~~e. How records are backed up.~~

3. Security measures to protect records ~~from~~ (i) from loss, unauthorized alteration, inadvertent or unauthorized access, or disclosure of information; and (ii) during transportation of records between service sites;

4. Designation of person responsible for records management; and

5. Disposition of records in the event the detention center ceases to operate.

E. The procedure shall specify what information is available to the resident.

F. Active and closed written records shall be kept in secure locations or compartments that are accessible only to

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authorized staff and shall be protected from unauthorized access, fire, and flood.

G. All case records shall be retained as governed by The Library of Virginia.

6VAC35-101-340. Face sheet.

A. At the time of admission, each resident's record shall include, at a minimum, a completed face sheet that contains the following:

1. The resident's full name, last known residence, birth date, birthplace, sex, race, unique numerical identifier, religious preference, and admission date; ~~and~~
2. Names, addresses, and telephone numbers of ~~the applicable court service unit~~, emergency contacts, and parents or legal guardians, as appropriate and applicable; and
3. The name and telephone number of the applicable court service unit.

B. Information shall be updated when changes occur.

C. Upon discharge, the (i) date of discharge and (ii) name of the person to whom the resident was discharged, if applicable, shall be added to the face sheet.

6VAC35-101-350. Buildings and inspections.

A. All newly constructed buildings, major renovations to buildings, and temporary structures shall be inspected and approved by the local building official. Approval shall be documented by a certificate of occupancy.

B. A current copy of the facility's annual inspection by fire prevention authorities indicating that all buildings and equipment are maintained in accordance with the Virginia Statewide Fire Prevention Code (13VAC5-51) shall be maintained. If the fire prevention authorities have failed to timely inspect the detention center's buildings and equipment, documentation of the facility's request to schedule the annual inspection ~~as well as~~ and documentation of any necessary follow-up with fire prevention authorities shall be maintained.

C. A detention center shall maintain a current copy of the detention center's its annual inspection and approval, in accordance with state and local inspection laws, regulations, and ordinances; of the systems listed below shall be maintained in this subsection. These required inspections shall be of the include:

1. General sanitation;
2. Sewage disposal system;
3. Water supply; and
4. Food service operations.

D. Building plans and specifications for new construction, change in use of existing buildings, and any structural modifications or additions to existing buildings shall be

submitted to and approved by the regulatory authority and by other appropriate regulatory agencies. Any planned construction, renovation, enlargement, or expansion of a detention center shall follow the submission and approval requirements of the Regulation Governing State Reimbursement of Local Juvenile Residential Facility Costs (6VAC35-30) and of any other applicable regulatory authorities.

6VAC35-101-360. Equipment and systems inspections and maintenance.

A. ~~All safety~~ Safety, emergency, and communications equipment and systems, as identified by the facility administrator, shall be inspected, tested, and maintained by designated staff in accordance with the manufacturer's recommendations or instruction manuals or, absent such requirements, in accordance with a schedule that is approved by the facility administrator. Testing of such equipment and systems shall, at a minimum, be conducted quarterly. The facility administrator shall develop written procedures for the development, maintenance, and review of safety, emergency, and communications equipment and systems that the facility administrator identifies as critical, as well as the testing intervals for such equipment and systems.

B. Whenever safety, emergency, ~~and~~ or communications equipment or ~~a system is found to be~~ systems are determined to be defective, immediate steps shall be taken to rectify the situation and to repair, remove, or replace the defective equipment or systems.

6VAC35-101-370. Alternate power source.

The facility shall have access to an alternate power source ~~for use in an~~ to maintain essential services in an emergency.

6VAC35-101-380. Heating and cooling systems and ventilation.

A. Heat shall be distributed in all rooms occupied by the residents such that a temperature no less than 68°F is maintained, unless otherwise mandated by state or federal authorities.

B. Air conditioning or mechanical ventilating systems, such as electric fans, shall be provided in all rooms occupied by residents when the temperature in those rooms exceeds 80°F unless otherwise mandated by state or federal authorities.

6VAC35-101-400. Plumbing and water supply; temperature.

A. Plumbing shall be maintained in operational condition, as designed.

B. An adequate supply of hot and cold running water shall be available at all times.

C. Precautions shall be taken to prevent scalding from running water. ~~Water temperatures should~~ Hot water temperatures shall be maintained at 100°F to 120°F.

6VAC35-101-410. Drinking water.

A. In all detention centers constructed after January 1, 1998, all sleeping ~~areas~~ rooms shall have fresh drinking water for the residents' use.

B. All activity areas shall have potable drinking water available for the residents' use.

6VAC35-101-420. Toilet facilities.

A. There shall be one toilet facilities and one hand basin available for resident use in all sleeping rooms for each detention center building constructed or structurally modified after January 1, 1998.

B. There shall be at least ~~one toilet, one hand basin, and~~ one shower or bathtub for every eight residents for detention ~~centers~~ center buildings constructed on or before December 27, 2007. There shall be ~~one toilet, one hand basin, and~~ at least one shower or tub for every ~~four~~ five residents in any building constructed or structurally modified on or after December 28, 2007.

C. There shall be at least one bathtub in each facility.

D. The maximum number of staff members on duty in the living unit shall be counted in determining the required number of toilets and hand basins when a separate bathroom is not provided for staff.

6VAC35-101-430. Sleeping areas rooms.

A. Males and females shall have separate sleeping rooms.

B. Beds shall be at least three feet apart at the head, foot, and sides; and double-decker beds shall be at least five feet apart at the head, foot, and sides.

C. Sleeping ~~quarters~~ rooms established, constructed, or structurally modified after July 1, 1981, shall have:

1. At least 80 square feet of floor area in a bedroom accommodating one person;
2. At least 60 square feet of floor area per person in rooms accommodating two or more persons; and
3. Ceilings with a primary height of at least 7-1/2 feet ~~in~~ height, exclusive of protrusions, duct work, or dormers.

D. Mattresses shall be fire retardant as evidenced by documentation from the manufacturer except in buildings equipped with an automated sprinkler system as required by the Virginia Uniform Statewide Building Code (13VAC5-63).

E. ~~The environment of sleeping areas~~ During sleeping hours, living units and sleeping rooms shall be, during sleeping hours, maintained in a manner that is conducive to sleep and rest.

6VAC35-101-460. Smoking prohibition.

Residents shall be prohibited from using, possessing, purchasing, or distributing tobacco products or nicotine vapor products. Tobacco products, including cigarettes, cigars, pipes, and smokeless tobacco, such as chewing tobacco or snuff, pipe tobacco, bidis, and wrappings and vapor products, such as electronic cigarettes, electronic cigars, electronic cigarillos, electronic pipes, or similar products or devices shall not be used by staff, contractors, volunteers, interns, or visitors in any areas of the facility or its premises where residents may see or smell the tobacco product.

6VAC35-101-470. Space utilization.

A. Each detention center shall provide for the following:

1. Indoor and outdoor recreation areas;
2. Kitchen facilities and equipment for the preparation and service of meals;
3. Space and equipment for laundry, if laundry is done at the detention center;
4. A designated visiting area that permits informal communication between residents and visitors, including opportunity for physical contact in accordance with written procedures;
5. Storage space for items such as first aid equipment, household supplies, recreational equipment, and other materials;
6. Space for administrative activities including, as appropriate to the program, confidential conversations and the storage of records and materials; and
7. A central medical ~~room~~ area with medical examination ~~facilities~~ rooms or other spaces developed and equipped in consultation with the health authority.

B. If a school ~~programs~~ program is operated at the facility, school classrooms shall be designed in consultation with appropriate education authorities to comply with applicable state and local requirements.

C. Spaces or areas may be interchangeably utilized interchangeably but shall be in functional condition for the designated ~~purposes~~ purpose.

6VAC35-101-480. Kitchen operation and safety.

A. Meals shall be served in areas equipped with tables and benches or chairs that are size and age appropriate for the residents.

B. Written procedures shall govern access to ~~all~~ areas where food or utensils are stored and the inventory and control of ~~all~~ culinary equipment to which the residents reasonably may be expected to have access.

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C. Walk-in refrigerators and freezers shall be equipped to permit emergency exits.

D. Bleach or another sanitizing agent approved by the federal Environmental Protection Agency to destroy bacteria shall be used in laundering table and kitchen linens.

E. Residents shall not be permitted to work in the detention center's food service.

6VAC35-101-490. Maintenance of the buildings and grounds.

A. The interior and exterior of all buildings and grounds shall be safe, maintained, and reasonably free of clutter and rubbish. ~~This includes, but is not limited to,~~ requirement applies to all areas of the facility and to items within the facility, including (i) required locks, mechanical devices, indoor and outdoor equipment, and furnishings and (ii) all areas where residents, staff, and visitors reasonably may be expected to have access.

B. All buildings shall be reasonably free of stale, musty, or foul odors.

C. Buildings shall be kept reasonably free of flies, roaches, rats, and other vermin.

6VAC35-101-500. Animals on the premises.

A. ~~Animals maintained on the premises shall be housed at a reasonable distance from sleeping, living, eating, and food preparation areas, as well as a safe distance from water supplies;~~

1. Housed a reasonable distance from eating and food preparation areas, as well as a safe distance from water supplies;

2. Tested, inoculated, and licensed as required by law; and

3. Provided with clean sleeping areas and adequate food and water.

~~B. Animals maintained on the premises shall be tested, inoculated, and licensed as required by law.~~

~~C. B.~~ The premises shall be kept reasonably free of stray domestic animals.

~~D. Pets shall be provided with clean sleeping areas and adequate food and water.~~

6VAC35-101-510. Emergency and evacuation procedures.

A. A detention center shall develop a written emergency preparedness and response plan ~~shall be developed. The plan which~~ shall address:

1. Documentation of contact with the local emergency coordinator to determine (i) local disaster risks; (ii) communitywide plans to address different disasters and emergency situations; and (iii) assistance, if any, that the local emergency management office will provide to the detention center in an emergency;

2. Analysis of the detention center's capabilities and potential hazards, including natural disasters, severe weather, fire, flooding, ~~work place~~ work-place violence or terrorism, missing persons, severe injuries, or other emergencies that would disrupt the normal course of service delivery;

3. Written emergency management procedures outlining specific responsibilities for provision of administrative direction and management of response activities; coordination of logistics during the emergency; communications; life safety of employees, contractors, interns, volunteers, visitors, and residents; property protection; fire protection service; community outreach; and recovery and restoration;

4. Written emergency response procedures for assessing the situation; protecting residents, employees, contractors, interns, volunteers, and visitors; equipment and vital records; and restoring services. Emergency procedures shall address:

a. Communicating with employees, contractors, and community responders;

b. Warning and ~~notification of~~ notifying residents;

c. Providing emergency access to secure areas and opening locked doors;

d. Conducting evacuations to emergency shelters or alternative sites and accounting for all residents;

e. Relocating residents, if necessary;

f. Notifying parents and legal guardians, as applicable and appropriate;

g. Alerting emergency personnel and sounding alarms;

h. Locating and shutting off utilities when necessary; and

i. Providing for a planned, personalized means of effective ~~egress~~ evacuation for ~~residents~~ individuals with disabilities who use wheelchairs, crutches, canes, or other ~~mechanical devices for assistance in walking~~ require special accommodations, such as deaf, blind, and nonambulatory individuals.

5. Supporting documents that would be needed in an emergency, including emergency call lists, building and site maps necessary to shut off utilities, designated ~~escape~~ evacuation routes, and ~~list~~ lists of major resources such as local emergency shelters; and

6. Schedule for testing the implementation of the plan and conducting emergency preparedness drills.

B. Emergency preparedness and response training shall be developed and required for all employees to ensure they are prepared to implement the emergency preparedness plan in the event of an emergency. Such training shall be conducted in accordance with 6VAC35-101-180 (~~required initial orientation~~) through 6VAC35-101-200 (~~retraining~~) and ~~include~~ shall outline the employees' responsibilities for:

1. Alerting emergency personnel and sounding alarms;
2. Implementing evacuation procedures, including evacuation of residents individuals with special needs (i.e., disabilities who require special accommodations, such as deaf, blind, nonambulatory) and nonambulatory individuals;
3. Using, maintaining, and operating emergency equipment;
4. Accessing emergency information for residents including medical information; and
5. Utilizing community support services.

C. ~~Contractors and~~ volunteers, and interns shall be oriented in their responsibilities in implementing the evacuation plan in the event of an emergency. ~~Such~~ The orientation shall be in accordance with the requirements of ~~6VAC35-101-180 (required initial orientation)~~ 6VAC35-101-185 and 6VAC35-101-300 (volunteer and intern orientation and training) 6VAC35-101-187.

D. ~~The~~ An annual review of the emergency preparedness plan shall be conducted and documented, and revisions shall be made as deemed necessary. Such revisions shall be communicated to employees, contractors, interns, and volunteers and incorporated into training for employees, contractors, interns and volunteers, and orientation of residents to services.

E. In the event of a disaster, fire, emergency, or any other condition that may jeopardize the health, safety, and welfare of residents, the detention center shall take appropriate actions ~~shall be taken~~ to protect the health, safety, and welfare of the residents and to remedy the conditions as soon as possible.

F. In the event of a disaster, fire, emergency, or any other condition that may jeopardize the health, safety, and welfare of residents, the detention center first ~~should~~ shall respond and stabilize the disaster or emergency. ~~After~~ Once the disaster or emergency is stabilized, the detention center shall report the disaster or emergency ~~shall be reported~~ to the legal guardian and parents or legal guardians, the applicable court service ~~unit~~ units and the director no later than 24 hours after the incident occurs in accordance with 6VAC35-101-80. Additionally, the detention center shall report within 24 hours of the incident the conditions at the detention center and the disaster or emergency shall be reported to the director or the director's designee as soon as possible, but no later than 24 hours after the incident occurs and in accordance with 6VAC35-101-80 (serious incident reports).

G. Floor plans showing primary and secondary ~~means of~~ emergency ~~exiting~~ exits shall be posted on each floor in locations where they ~~can be seen easily by~~ are clearly visible to staff and residents.

H. ~~The responsibilities of the residents in implementing~~ resident's responsibility to implement the emergency and evacuation procedures shall be communicated to all residents

within seven days following admission or a substantive change in the procedures.

I. ~~At~~ The detention center shall conduct at least one evacuation drill ~~(the simulation of the detention center's emergency procedures) shall be conducted in which its emergency procedures are simulated~~ each month in each building occupied by residents. During any three consecutive calendar months, at least one evacuation drill shall be conducted during each shift.

J. Evacuation drills shall include, at a minimum:

1. Sounding of emergency alarms;
2. Practice in evacuating buildings;
3. Practice in alerting emergency authorities;
4. Simulated use of emergency equipment; and
5. Practice in accessing resident emergency information.

K. A record shall be maintained for each evacuation drill and shall include the following:

1. ~~Buildings~~ The building in which the drill was conducted;
2. ~~Date~~ The date and time of the drill;
3. ~~Amount~~ The amount of time taken to evacuate the buildings;
4. ~~Specific~~ The specific problems encountered, if applicable;
5. ~~Staff~~ The staff tasks completed, including head counts and practice in notifying emergency authorities:
 - a. ~~Head count, and~~
 - b. ~~Practice in notifying emergency authorities; and~~
6. The name of the staff members responsible for conducting and documenting the drill and preparing the record.

L. One staff member shall be assigned ~~to~~ who shall ensure that all requirements regarding the emergency preparedness and response plan and the evacuation drill program are met.

6VAC35-101-520. Control center.

To maintain ~~the~~ internal security, a control center that is secured from residents' access shall be staffed 24 hours a day, seven days a week, and shall integrate all external and internal security functions and communications networks.

6VAC35-101-530. Control of perimeter.

A. In accordance with a written plan, the detention center's perimeter shall be controlled by appropriate means to ~~provide~~ ensure that residents remain within the perimeter and to prevent unauthorized access by the public.

B. Pedestrians and vehicles shall enter and leave at designated points in the perimeter.

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6VAC35-101-540. Escapes.

Written ~~procedure~~ procedures shall govern the action staff actions ~~to be taken regarding escapes and any~~ must take to address a resident's escape or unauthorized absence from the facility ~~without permission. Any such~~ The procedure shall ~~provide for authorize~~ the release of information ~~consistent with~~ subject to the provisions of § 16.1-309.1 of the Code of Virginia.

6VAC35-101-550. Contraband.

Written procedure shall provide for the control, detection, and disposition of contraband. Such procedures shall govern searches of residents, as required by 6VAC35-101-560 (~~searches of residents~~), and other individuals, and ~~searches of~~ the premises and shall provide for ~~respecting~~ the protection of residents' rights.

6VAC35-101-560. Searches of residents.

A. Written procedures shall govern searches of residents, including patdown and frisk searches, ~~strip full~~ searches, and body cavity searches, and shall include the following:

1. Searches of residents' persons shall be conducted only for the purposes of maintaining facility security and controlling contraband while protecting the dignity of the resident.
2. Searches ~~are~~ shall be conducted only by personnel who are authorized to conduct such searches.
3. The resident shall not be touched any more than is necessary to conduct the search.

B. Patdown and frisk searches shall be conducted by employees of the same sex as the resident being searched, except in emergencies.

C. ~~Strip Full searches and visual inspections of the vagina and anal cavity areas~~ shall be subject to the following:

1. The search shall be performed by personnel of the same sex as the resident being searched;
2. The search shall be conducted in an area that ensures privacy; and
3. Any witness to the search shall be of the same sex as the resident.

D. Manual and instrumental searches of the anal cavity or vagina, not including medical examinations or procedures conducted by medical personnel for medical purposes, shall be:

1. Performed only ~~with the written authorization of the facility administrator or by a~~ pursuant to court order or upon occurrence of an exigent circumstance requiring medical attention;
2. Conducted by a qualified medical professional;
3. Witnessed by personnel of the same sex as the resident; and

4. Fully documented in the resident's medical file.

6VAC35-101-570. Communications systems.

A. There shall be a means ~~for~~ of communicating between the control center and living ~~areas~~ units.

B. The detention center shall be able to provide communications in an emergency.

6VAC35-101-580. Telephone access and emergency numbers.

A. There shall be at least one continuously operable, nonpay telephone accessible to staff in each building in which residents sleep or participate in programs.

B. There shall be an emergency telephone number where a staff person may be ~~immediately~~ contacted immediately, 24 hours a day, ~~seven days per week~~.

C. An emergency telephone number shall be provided to residents and the adults responsible for their care when a resident is away from the facility and not under the supervision of direct care staff or law-enforcement officials.

6VAC35-101-600. Weapons.

Written procedures shall be developed and implemented to govern the possession and use of firearms, pellet guns, air guns, and other weapons on the detention center's premises. The procedure shall ~~provide that no~~ prohibit firearms, pellet guns, air guns, or other weapons ~~shall be permitted~~ on the premises unless the weapons are:

1. In the possession of and ~~use~~ used by authorized law-enforcement personnel admitted to facilities in response to emergencies; or
2. Stored in secure weapons lockers outside the secure perimeter of the facility by law-enforcement personnel conducting official business at the facility.

6VAC35-101-610. Area and equipment restrictions.

Written ~~procedure~~ procedures shall govern the inventory and control of all security, maintenance, ~~recreational~~, and medical equipment of the detention center to which residents reasonably may be expected to have access.

6VAC35-101-620. Power equipment.

~~Written~~ The facility shall develop and implement written safety rules ~~shall be developed and implemented~~ for the use and maintenance of power equipment.

6VAC35-101-630. Transportation of residents.

A. ~~Except as otherwise provided in 6VAC35-101-635, a~~ detention center shall follow the requirements of this section if a resident requires transportation.

B. Each detention center shall have transportation available or make the necessary arrangements for routine facility-approved and emergency transportation of residents.

1. Pursuant to § 16.1-254 of the Code of Virginia, each detention center shall be responsible for transporting juvenile residents in their custody to all local medical and dental appointments and all local psychological and psychiatric evaluations.

2. Unless otherwise provided by agreement, the detention center shall not be required to transport youth to appointments that are outside of the geographical boundaries of the Commonwealth or that are more than 25 miles from the facility in one direction.

3. A detention center may assign its own staff to transport a detained juvenile or may enter into an agreement or contract with a public or private agency to provide the transportation services for the juvenile.

~~B. There shall be written safety rules for transportation of residents and for the use of vehicles.~~ C. Written safety and security procedures shall be implemented governing the use of vehicles and the transportation of residents outside the detention center and from one jurisdiction to another. The written procedures shall be in accordance with § 16.1-254 of the Code of Virginia and shall, at a minimum, provide the following:

1. No juvenile shall be transported with an adult suspected of or charged with a criminal act.

2. If a person or entity other than the detention center assumes custody of the resident for purposes of transportation, the detention center shall:

a. Provide the person or entity, except the resident's parent or guardian, with a written document that identifies any pertinent information known to the detention center concerning the juvenile's immediate medical needs or mental health condition that reasonably could be considered necessary for the juvenile's safe transportation and supervision, including the resident's recent suicidal ideations or suicide attempts. Any such information shall remain confidential, in accordance with § 16.1-300 of the Code of Virginia and applicable rules and regulations regarding confidentiality of juvenile records.

b. Provide the individual transporting the resident with any medication the resident may be required to take during transport or while absent from the facility.

3. The frequency and manner of searches of residents, the manner by which communications will be accomplished during transit, the ratio of staff to residents, and the parameters for use of mechanical restraints shall be in accordance, respectively, with 6VAC35-101-560, 6VAC35-101-580, 6VAC35-101-890, and 6VAC35-101-1130, and shall accord with written procedures.

4. If the vehicle transporting the resident becomes inoperable, is involved in an accident, or encounters a similar emergency, the individual transporting the resident shall notify the individual's agency immediately and contact local law enforcement for assistance, if necessary. Detention center staff transporting residents shall observe the required staffing ratios and shall never leave a resident unattended.

5. If a juvenile absconds during transport, the detention center staff conducting the transport shall report the incident immediately in accordance with 6VAC35-101-80.

6. If a juvenile requires a meal during transit, the detention center shall provide a bagged lunch, if feasible.

~~C. D.~~ Written procedure shall provide for the verification of appropriate licensure for staff whose duties involve transporting residents.

E. The detention center shall observe the following if a resident requires transport to a local medical or dental appointment:

1. If detention center staff transport the detained juvenile to a local medical or dental appointment as authorized in subdivision B 3 of this section, the detention center shall not be obligated to pay for any costs associated with the appointment, unless provided for otherwise by agreement.

2. The detention center may require notice of the date and time of the local medical appointment, dental appointment, or psychological and psychiatric evaluation at least 72 hours in advance.

F. When the medical staff of a detention center have made a written determination that a resident's medical condition can be treated without transporting the resident to a routine or previously scheduled appointment, the detention center is not required to transport the resident unless ordered by a court.

G. A juvenile who was confined in a juvenile detention center immediately prior to a court hearing may not be transported to a juvenile correctional center's intake unit directly from court upon commitment. Instead, the juvenile shall be returned to the detention center until the department completes the commitment packet and arranges transportation for the resident.

6VAC35-101-635. Transportation of violent or disruptive youth or youth traveling to specified destinations.

A. Only juvenile detention center staff or law-enforcement personnel, excluding the Department of the State Police, may transport violent and disruptive juveniles.

B. The court service unit responsible for supervising the juvenile or the agency or parent seeking placement shall be responsible for transporting a detained juvenile to a residential placement pursuant to § 16.1-294 of the Code of Virginia, unless otherwise ordered by the court.

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C. The chief judge of the juvenile and domestic relations district court shall designate an appropriate agency to transport detained juveniles who do not meet the requirements of subsection A of this section and are traveling to any one of the following destinations: (i) destinations across jurisdictional boundaries or that are more than 25 miles from the detention home in one direction when there is not a standing administrative agreement or commission charter governing transportation of detained residents; (ii) destinations in other states; (iii) other secure detention facilities, such as detention centers or jails, when there is not a standing administrative agreement governing transportation of residents; (iv) a law-enforcement agency for interrogation; (v) funerals, death bed visits, and other extreme circumstances; (vi) other destinations as determined by the court; and (vii) any other destination that is not (a) designated in 6VAC35-101-630 B 1 or (b) a special placement made pursuant to § 16.1-286 of the Code of Virginia. Appropriate agencies may include the detention center, the court service unit, a local law-enforcement agency, or a public or private agency but may not include the Department of State Police.

D. The transportation of a juvenile detained in a postdispositional detention program to any destination listed in subsection C of this section must be at the designation of the court by individual court order, by standing order, or by court approval of the plan for treating postdispositionally detained juveniles required in 6VAC35-101-1180.

E. Consistent with the requirements in § 37.1-67.01 of the Code of Virginia, when a court commits a juvenile to a mental hospital or training center for observation, the committing court shall designate the appropriate law-enforcement agency, other than the Department of State Police, to transport the juvenile.

6VAC35-101-640. ~~Transportation of residents; Detention center transfer to department.~~

~~A. Residents shall be transported in accordance with Guidelines for Transporting Juveniles in Detention issued by the board in accordance with § 16.1-254 of the Code of Virginia.~~

~~B. When a resident is transported transferred to the department from a detention center, all information pertaining to the resident's medical, educational, behavioral, and family circumstances during the resident's stay in detention shall be sent either in a written document or electronically to the department (i) with the resident, if the detention center is given at least 24 hours notice; or (ii) within 24 hours after the resident is transported; if such notice is not given.~~

6VAC35-101-650. Prohibited actions.

~~A. The following actions are prohibited~~ Residents shall not be subjected to the following actions:

1. Discrimination in violation of the Constitution of the United States, the Constitution of the Commonwealth of Virginia, and state and federal statutes and regulations;
2. Deprivation of drinking water or food necessary to meet a resident's daily nutritional needs, except as ordered by a licensed ~~physician~~ health care professional for a legitimate medical purpose and documented in the resident's record;
3. Denial of contacts and visits with the resident's attorney, ~~a probation officer~~, the regulatory authority, a supervising agency representative, or representatives of other agencies or groups as required by applicable statutes or regulations;
4. Any action that is humiliating, degrading, or abusive, including ~~but not limited to~~ any form of physical abuse, sexual abuse, or sexual harassment;
5. Corporal punishment, which is administered through the intentional ~~inflicting~~ infliction of pain or discomfort to the body through actions such as, ~~but not limited to~~ (i) striking or hitting with any part of the body or with an implement; (ii) pinching, pulling, or shaking; or (iii) any similar action that normally inflicts pain or discomfort;
6. Subjection to unsanitary living conditions;
7. Deprivation of opportunities for bathing or access to toilet facilities, except as ordered by a licensed ~~physician~~ health care professional for a legitimate medical purpose and documented in the resident's record;
8. Denial of health care;
9. Denial of appropriate services and treatment;
10. Application of aversive stimuli, except as permitted pursuant to other applicable state regulations; ~~aversive stimuli means any physical forces (e.g., sound, electricity, heat, cold, light, water, or noise) or substances (e.g., hot pepper, pepper sauce, or pepper spray) measurable in duration and intensity that when applied to a resident are noxious or painful to the individual;~~
11. Administration of laxatives, enemas, or emetics, except as ordered by a licensed ~~physician~~ health care professional or poison control center for a legitimate medical purpose and documented in the resident's health care record;
12. Deprivation of opportunities for sleep or rest, except as ordered by a licensed ~~physician~~ health care professional for a legitimate medical purpose and documented in the resident's health care record;
13. Use of pharmacological restraints; and
14. Other constitutionally prohibited actions.

B. Employees shall be trained on the prohibited actions as provided in 6VAC35-101-190 (~~required initial training~~) and 6VAC35-101-200 (~~retraining~~); volunteers and interns shall be ~~trained~~ given a basic orientation on prohibited actions as

provided in ~~6VAC35-101-300 (volunteer and intern orientation and training)~~ 6VAC35-101-187; and residents shall be oriented on the prohibited actions as provided in 6VAC35-101-800 ~~(admission and orientation)~~.

6VAC35-101-655. Vulnerable population.

A. The facility shall implement a procedure for assessing whether a resident is a member of a vulnerable population. Factors including the resident's height and size, English proficiency, sexual orientation, history of being bullied, or history of self-injurious behavior may be considered in determining whether a resident is a member of a vulnerable population. The resident's own views with respect to the resident's safety shall be taken into consideration.

B. If the assessment determines a resident is a member of a vulnerable population, the facility shall implement any identified additional precautions such as heightened need for supervision, additional safety precautions, or separation from certain other residents. The facility shall consider on a case-by-case basis whether a placement would ensure the resident's health and safety and whether the placement would present management or security problems.

~~C. For the purposes of this section, vulnerable population means a resident or group of residents who have been assessed to be reasonably likely to be exposed to the possibility of being attacked or harmed, either physically or emotionally (e.g., very young residents; residents who are small in stature; residents who have limited English proficiency; residents who are gay, lesbian, bi sexual, transgender, or intersex; residents with a history of being bullied or of self-injurious behavior).~~

6VAC35-101-660. Residents' mail.

A. A resident's incoming or outgoing mail may be delayed or withheld only in accordance with this section, as permitted by other applicable regulations, or by order of a court.

B. Staff may open and inspect residents' incoming and outgoing nonlegal mail for contraband. When based on legitimate interests of the facility's order and security, nonlegal mail may be read, censored, or rejected in accordance with written procedures. The resident shall be notified when incoming or outgoing letters are withheld in part or in full or redacted, as appropriate.

C. In the presence of the resident recipient and in accordance with written procedures, staff may open legal mail to inspect for contraband; but shall not read, ~~legal mail it. Legal mail shall mean any written material that is sent to or received from a designated class of correspondents, as defined in procedures, which shall include any court, legal counsel, or administrators of the grievance system, the governing authority, the department, or the regulatory authority.~~

D. Staff shall not read outgoing mail addressed to parents, immediate family members, legal guardians, guardian ad litem guardians ad litem, counsel, courts, officials of the

committing authority, public officials, or grievance administrators unless permission has been obtained from a court or the facility administrator or his designee has determined that there is a reasonable belief that the security of the facility is threatened. When so authorized, staff may read such mail in accordance with written procedures.

E. Except as otherwise provided, incoming and outgoing letters shall be held for no more than 24 hours and packages for no more than 48 hours, excluding weekends and holidays.

F. If requested by the resident, postage and writing materials shall be provided for unlimited outgoing legal ~~correspondence~~ mail and at least two other letters per week.

G. First-class letters and packages received for residents who have been transferred or released shall be forwarded to the resident's last known address or forwarding address or returned to sender.

H. Written procedure governing resident correspondence ~~of residents~~ shall be made available to all staff and residents ~~and shall be reviewed annually and updated as needed.~~

6VAC35-101-670. Telephone calls.

~~Telephone~~ Residents shall be permitted to make telephone calls ~~shall be permitted~~ in accordance with written procedures that take into account the need for security and order, resident behavior, and program objectives.

6VAC35-101-680. Visitation.

A. A resident's contacts and visits with family or legal guardians shall not be subject to unreasonable limitations, and any ~~limitation~~ limitations shall be implemented only as permitted by written procedures, other applicable regulations, or by order of a court.

B. Residents shall be permitted reasonable visiting privileges and, whenever possible, flexible visiting hours, consistent with written procedures; that take into account (i) the need for security and order, (ii) the behavior of the residents and visitors, and (iii) the importance of helping the resident maintain strong family and community ties, ~~and (iv) whenever possible, flexible visiting hours.~~

C. Visitation procedures shall be provided upon request to the parent or legal guardian, as appropriate and applicable, and the residents.

6VAC35-101-690. Contact with attorneys, courts, and law enforcement.

A. Residents shall have uncensored, confidential contact with their legal representative in writing, as required by 6VAC35-101-660 ~~(residents' mail)~~, by telephone, or in person. Reasonable limits may be placed on such contacts as necessary to protect the security and order of the facility. ~~For the purpose of this section a legal representative is defined as (i) a court appointed or retained attorney or a paralegal, investigator, or~~

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~~other representative from that attorney's office or (ii) an attorney visiting for the purpose of a consultation if requested by the resident.~~

B. Residents shall not be denied access to the courts.

C. Residents shall not be required to submit to questioning by law enforcement, although they may do so voluntarily.

1. Residents' consent shall be obtained ~~prior to~~ before any contact with law enforcement.

2. No employee may coerce a resident's decision to consent to have contact with law enforcement.

3. Each facility shall have written procedures for establishing a resident's consent to any such contact and for documenting the resident's decision. The procedures may ~~provide for~~ require (i) notification of the parent or legal guardian, as appropriate and applicable, ~~prior to~~ before the commencement of questioning; and (ii) opportunity, at the resident's request, to confer with an attorney, parent or legal guardian, or other person in ~~making the decision~~ deciding whether to consent to questioning.

6VAC35-101-700. Personal necessities.

A. At admission, each resident shall be provided the following:

1. An adequate supply of personal necessities for hygiene and grooming;

2. Size appropriate clothing and shoes for indoor and outdoor wear;

3. A separate bed equipped with a mattress, a pillow, blankets, bed linens, and, if needed, a waterproof mattress cover; and

4. Individual washcloths and towels.

B. At the time of issuance, all items shall be clean and in good repair.

C. Personal necessities shall be replenished as needed.

D. The washcloths, towels, and bed linens shall be cleaned or changed, ~~at a minimum,~~ at least once every seven days and more often, if needed. Bleach or another sanitizing agent approved by the federal Environmental Protection Agency to destroy bacteria shall be used in the laundering of such linens ~~and table linens.~~

E. After issuance, blankets shall be cleaned or changed as needed.

6VAC35-101-710. Showers.

Residents shall have the opportunity to shower daily except as provided in written procedures for the purpose of maintaining facility security or for the special management of maladaptive behavior if approved by the facility administrator,

the facility administrator's designee, or a qualified mental health professional.

6VAC35-101-730. Residents' privacy.

Residents shall be provided privacy from routine sight supervision by staff members of the opposite sex while bathing, dressing, or conducting toileting activities, except when constant supervision is necessary to protect the resident due to mental health issues involving self-injurious behaviors or suicidal ideations or attempts. This section does not apply to medical personnel performing medical procedures or to staff providing assistance to residents whose physical or mental disabilities dictate the need for assistance with these activities as justified in the resident's health care record.

6VAC35-101-740. Nutrition.

A. Each resident, except as provided in subsection B of this section, shall be provided a daily diet that (i) consists of at least three nutritionally balanced meals and an evening snack, (ii) includes an adequate variety and quantity of food for the age of the resident, and (iii) meets minimum applicable federal nutritional requirements.

B. Special diets or alternative dietary schedules, as applicable, shall be provided (i) when prescribed by a ~~physician~~ licensed health care professional or (ii) when necessary to observe the established religious dietary practices of the resident. In such circumstances, the meals shall meet the minimum applicable federal nutritional requirements. Special diets may be provided to a resident who has used food or culinary equipment inappropriately, resulting in a threat to facility security, provided the facility administrator, the facility administrator's designee, or a qualified mental health professional provides written approval.

C. Menus of actual meals served shall be kept on file for at least six months.

D. Staff who eat in the presence of the residents shall be served the same meals as the residents unless a special diet has been prescribed by a physician for the staff or residents or the staff or residents are observing established religious dietary practices.

E. There shall not be more than 15 hours between the evening meal and breakfast the following day, except when the facility administrator approves an extension of time between meals on weekends and holidays. When an extension is granted on a weekend or holiday, there shall never be more than 17 hours between the evening meal and breakfast.

F. ~~Food shall be made~~ Each detention center shall ensure that food is available to residents who, for documented medical or religious reasons, need to eat breakfast before the 15 hours have expired.

6VAC35-101-770. Recreation.

A. The detention center shall have a written description of its recreation program that describes activities that are consistent with the detention center's total program and with the ages, developmental levels, interests, and needs of the residents ~~that includes~~. The recreation program shall include:

1. Opportunities for individual and group activities;
2. Opportunity for large muscle exercise daily;
3. Scheduling so that activities do not conflict with meals, religious services, or educational programs, ~~or other regular events;~~
4. Provision of a variety of equipment for each indoor and outdoor recreation period; and
5. Regularly scheduled indoor and outdoor recreational activities. Outdoor recreation ~~will~~ shall be available whenever practicable in accordance with the facility's recreation program. Staff shall document any adverse weather conditions, threat to facility security, or other circumstances preventing outdoor recreation.

B. The recreational program shall (i) address the means by which residents will be medically assessed for any physical limitations or necessary restrictions on physical activities and (ii) provide for the supervision of and safeguards for residents, including when participating in water-related and swimming activities.

6VAC35-101-780. Residents' funds.

A. The facility shall develop and implement written procedures for safekeeping and for recordkeeping of any money that belongs to residents.

B. Residents' personal funds shall be used only (i) for ~~their~~ the resident's benefit; (ii) for payment of any fines, restitution, costs, or support ordered by a court; or (iii) to pay restitution for damaged property or personal injury as determined by the disciplinary process.

6VAC35-101-790. Fundraising.

Residents shall not be used in fundraising activities without the written permission of the parent or legal guardian, as applicable, and the consent of the residents.

6VAC35-101-800. Admission and orientation.

A. Written procedure governing the admission and orientation of residents shall provide for:

1. Verification of legal authority for placement;
2. Search of the resident and the resident's possessions, including inventory and storage or disposition of property, as appropriate and required by ~~6VAC35-101-800 (admission and orientation)~~ this section and 6VAC35-101-810 ~~(residents' personal possessions);~~

3. A general assessment of the resident's physical condition by staff. The facility administrator or the facility administrator's designee shall not admit for custody an individual who is (i) visibly under the influence of alcohol or drugs and deemed to require medical attention; or (ii) in need of immediate emergency medical attention, until the individual has received written medical clearance from a physician or qualified mental health professional in an outside medical setting.

~~4.~~ Health screening of the resident as required by 6VAC35-101-980 ~~(health screening at admission);~~

~~4.~~ 5. Mental health screening of the resident as required by 6VAC35-101-820 ~~(mental health screening);~~

~~5. Notification of~~ 6. Notice to the parent or legal guardian of admission, during which facility staff shall include an inquiry regarding ~~ask~~ whether the resident has any immediate medical concerns or conditions;

~~6.~~ 7. Provision to the parent or legal guardian of information on (i) visitation, (ii) how to request information, and (iii) how to register concerns and complaints with the facility;

~~7.~~ 8. Interview with the resident to answer questions and obtain information; and

~~8.~~ 9. Explanation to the resident of program services and schedules.

B. The resident shall receive an orientation to the following:

1. The behavior management program as required by 6VAC35-101-1070 ~~(behavior management);~~

a. During the orientation, residents shall be given written information describing rules of conduct, the sanctions for rule violations, and the disciplinary process. These shall be explained to the resident and documented by the dated signature of the resident and staff.

b. ~~Where~~ If a language or literacy problem exists that can lead to a resident misunderstanding the rules of conduct and related regulations, staff or a qualified person under the supervision of staff shall assist the resident.

2. The grievance procedure as required by 6VAC35-101-100 ~~(grievance procedure);~~

3. The disciplinary process as required by 6VAC35-101-1080 ~~(disciplinary process);~~

4. The resident's responsibilities in implementing the emergency procedures as required by 6VAC35-101-510 ~~(emergency and evacuation procedures); and~~

5. The resident's rights, including ~~but not limited to~~ the prohibited actions provided for in 6VAC35-101-650 ~~(prohibited actions).~~

~~C. Such orientation shall occur prior to assignment of the resident to a housing unit or room.~~

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~~D. Staff performing admission and orientation requirements contained in this section shall be trained prior to performing such duties.~~

6VAC35-101-810. Residents' personal possessions.

A. ~~Residents' Each detention center shall inventory every resident's personal possessions shall be inventoried upon admission and such inventory shall be documented document the information~~ in the resident's case record. When a resident arrives at a facility with items not permitted in the detention center, staff shall:

1. Dispose of contraband items in accordance with written procedures; and
2. If the items are nonperishable property that the resident may otherwise legally possess, securely store the property and return it to the resident upon release.

B. Each detention center shall implement a written procedure regarding the disposition of personal property unclaimed by residents after release from the facility.

6VAC35-101-820. Mental health screening.

A. Each resident shall undergo a mental health screening, as required by § 16.1-248.2 of the Code of Virginia, administered by trained staff, to ascertain the resident's suicide risk level and need for a mental health assessment. ~~Such screening shall include the following:~~

- ~~1. A preliminary mental health screening, at the time of admission, consisting of a structured interview and observation as provided in facility procedures; and~~
- ~~2. The administration of an objective mental health screening instrument within 48 hours of admission.~~

B. The mental health screening shall include the following:

1. A preliminary mental health screening at the time of admission, consisting of a structured interview and observation, as provided in facility procedures; and
2. The administration of an objective, department-approved mental health screening instrument within 48 hours of admission. The facility may supplement the screening instrument with additional questions or observations, as authorized in the facility's written procedures.

C. If the mental health screening indicates that a mental health assessment is needed, ~~it the assessment shall take place be conducted~~ within 24 hours of ~~such the~~ determination ~~as required in pursuant to the requirements set out in § 16.1-248.2 of the Code of Virginia.~~

6VAC35-101-830. Classification plan.

~~Residents shall be assigned~~ Detention center staff shall assign ~~residents~~ to sleeping rooms and living units according to a written plan that takes into consideration ~~the~~ detention center

center's design, staffing levels, and the behavior and characteristics of individual residents.

6VAC35-101-840. Discharge Release.

A. Residents shall be released from a detention center only in accordance with written procedure.

B. Each resident's record shall contain a copy of the documentation authorizing the resident's ~~discharge release~~.

C. Residents shall be ~~discharged~~ released only to the parent, legal guardian, or legally authorized representative.

D. As applicable and appropriate, information concerning current medications shall be provided to the parent, legal guardian, or legally authorized representative.

6VAC35-101-860. Structured programming.

A. Each facility shall implement a comprehensive, planned, and structured daily routine, including appropriate supervision, designed to:

1. Meet the residents' physical, emotional, and educational needs;
2. Provide protection, guidance, and supervision;
3. Ensure the delivery of program services; and
4. Meet the objectives of ~~any~~ the resident's individual service plan, if applicable.

B. The structured daily routine shall be followed for all weekday and weekend programs and activities. Deviations from the schedule shall be documented.

6VAC35-101-870. Written communication between staff; daily log.

A. ~~Procedures~~ The detention center shall be implemented providing for the implement written procedures requiring the creation and maintenance of a daily log or other daily written means of communication between staff, such as the use of daily logs. This means of communication shall be maintained to inform staff of significant happenings incidents or problems experienced by residents, such as any resident medical or dental complaints or injuries.

B. ~~The date and time of the entry and the identity of the individual making each entry shall be recorded~~ Log entries shall provide clear indication of the date and time that entries are made. The individual making entries shall be identified in the manner set out in facility procedures.

C. If the means of communication between staff is electronic, all entries shall ~~post the date, time, and name of the person making an entry~~ be made in accordance with subsection B of this section. The computer program shall prevent previous entries from being overwritten.

6VAC35-101-880. Additional assignments of direct care staff.

A. Direct care staff and staff responsible for the direct supervision of residents may assume the duties of nondirect care personnel only when these duties do not interfere with their direct care or direct supervision responsibilities.

B. Residents ~~shall~~ may assist in support functions that are part of the established, structured program, such as building and grounds maintenance and housekeeping, but may not be solely responsible for support these functions, including but not necessarily limited to, food service, maintenance of building and grounds, and housekeeping.

6VAC35-101-890. Staff supervision of residents.

A. Staff shall provide 24-hour awake supervision seven days a week.

B. No member of the direct care staff shall be on duty and responsible for the direct care of residents for more than six consecutive days without a rest day, except in an emergency. ~~For the purpose of this section, rest day shall mean a period of not less than 24 consecutive hours during which a staff person has no responsibility to perform duties related to the operation of a detention center. Such duties shall include participation in any training that is required by (i) this chapter, (ii) the employee's job duties, or (iii) the employee's supervisor.~~

C. Direct care staff shall ~~have an average~~ be scheduled an average of at least two rest days per week in any four-week period.

D. Direct care staff shall not be on duty more than 16 consecutive hours except in an emergency.

E. When both males and females are housed in the same living unit, at least one male and one female staff member shall be actively supervising at all times.

F. Staff shall always be in plain view of another staff person when entering an area occupied by residents of the opposite sex.

G. Staff shall regulate the movement of residents within the detention center in accordance with written procedures.

H. ~~Written procedures shall be implemented governing the transportation of residents outside the detention center and from one jurisdiction to another.~~

6VAC35-101-900. Staffing pattern.

A. The facility shall develop, implement, and document a staffing plan that provides for adequate levels of staffing and, where applicable, video monitoring to ensure the safe supervision of residents on the premises. The facility administrator shall review the staffing plan annually.

B. During the hours that residents are scheduled to be awake, there shall be at least one direct care staff member ~~awake~~, on

duty; and responsible for supervision of every ~~40~~ eight residents, or portion thereof, on the premises or ~~participating in attending~~ off-campus, detention center- sponsored activities.

~~B. C.~~ During the hours that residents are scheduled to sleep there shall be no ~~less~~ fewer than one direct care staff member on duty and responsible for the supervision of every 16 residents, or portion thereof, on the premises.

~~C. D.~~ There shall be at least one direct care staff member on duty and responsible for the supervision of residents in each building where residents are sleeping.

~~D. E.~~ At all times, there shall be no ~~less~~ fewer than one direct care staff member with current certifications in standard first aid and cardiopulmonary resuscitation on duty for every 16 residents, or portion thereof, being supervised by staff.

6VAC35-101-920. Work and employment.

A. ~~Assignment of chores, that are paid or unpaid work assignments, Paid and unpaid work assignments, including chores, that are assigned by or carried out at the juvenile detention center shall be in accordance with the age, health, and ability, and service plan of the resident.~~

B. ~~Chores~~ Assignments specified in subsection A of this section shall not interfere with school programs, study periods, meals, or sleep.

C. ~~In both work assignments and employment the~~ The facility administrator or the facility administrator's designee shall evaluate the appropriateness of the work and the fairness of the pay for external employment opportunities for residents.

6VAC35-101-930. Health authority.

The facility administrator shall designate a physician, nurse, nurse practitioner, psychiatrist, government authority, health administrator, health care contractor, or health agency to serve as the facility's health authority responsible for organizing, planning, and monitoring the timely provision of appropriate health care services, including arrangements for all levels of health care and the ensuring of quality and accessibility of all health services, consistent with applicable statutes and regulations, prevailing community standards, and medical ethics.

6VAC35-101-940. Provision of health care services.

~~Treatment by nursing~~ Nursing personnel shall be performed provide treatment pursuant to the laws and regulations governing the practice of nursing within the Commonwealth. ~~Other health trained personnel shall provide care within their level of training and certification.~~

6VAC35-101-950. Health care procedures.

A. ~~Written~~ The facility shall develop and implement written procedures shall be developed and implemented for:

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1. Providing or arranging for the provision of medical and dental services for health problems identified at admission;
2. Providing or arranging for the provision of ~~on-going~~ ongoing and follow-up medical and dental services after admission;
3. Providing or arranging for the provision of dental services for residents who present with acute dental concerns;
4. Providing emergency services for each resident as provided by statute or by ~~the~~ agreement with the resident's legal guardian, as applicable;
5. Providing emergency services for any resident experiencing or showing signs of suicidal or homicidal thoughts, symptoms of mood or thought disorders, or other mental health problems; and
6. Ensuring that the required information in subsection B of this section is accessible and up to date.

B. The following written information concerning each resident shall be readily accessible to designated staff who may ~~have~~ need to respond to a medical or dental emergency:

1. Name, address, and telephone number of the physician and dentist to be notified;
2. Name, address, and telephone number of a relative or other person to be notified; and
3. Information concerning:
 - a. Use of medication;
 - b. ~~All allergies~~ Allergies, including medication allergies;
 - c. Substance abuse and use; and
 - d. Significant past and present medical problems.

6VAC35-101-960. ~~Health—trained~~ Health-trained personnel.

A. ~~Health-trained~~ Health-trained personnel shall provide care as appropriate to their level of training and certification and shall not administer health care services for which they are not qualified or specifically trained.

B. The facility shall retain documentation of the training received by ~~health-trained~~ health-trained personnel necessary to perform any designated health care services. Documentation of applicable, current licensure or certification shall constitute compliance with this section.

6VAC35-101-970. Consent to and refusal of health care services.

A. ~~Health~~ Consent to health care services, as defined in 6VAC35-101-10 (definitions), shall be provided in accordance with § 54.1-2969 of the Code of Virginia. ~~The knowing and voluntary agreement, without undue inducement or any element of force, fraud, deceit, duress, or other form of constraint or coercion, of a person who is capable of exercising~~

~~free choice (informed consent) to health care shall be obtained from the resident or parent or legal custodian, as required by law. The juvenile detention center shall obtain consent from the resident or parent or legal guardian, as required by law, before providing health care services to a resident. The consent shall be knowing and voluntary, without undue inducement or any element of force, fraud, deceit, duress, or other form of constraint or coercion.~~

B. ~~The~~ An appropriately trained medical professional shall advise the resident and parent or legal guardian, as appropriate and applicable, ~~shall be advised by an appropriately trained medical professional~~ of (i) the material facts regarding the nature, consequences, and risks of the proposed treatment, examination, or procedure and (ii) the alternatives to ~~it~~ the proposed treatment, examination, or procedure.

C. Residents may refuse in writing medical treatment and care. Facilities shall have written procedures for:

1. Explaining the implications of ~~refusals~~ refusal; and
2. Documenting the reason for the refusal.

This subsection does not apply to medication refusals ~~that~~, which are governed by 6VAC35-101-1060 (medication).

D. When health care is rendered against the resident's will, it shall be in accordance with applicable laws and regulations.

6VAC35-101-980. Health screening at admission.

A. To prevent newly arrived residents who pose a health or safety threat to themselves or others from being admitted to the general population, all residents shall ~~immediately upon admission~~ undergo a preliminary health screening upon admission consisting of a structured interview and observation by health care personnel or ~~health-trained~~ health-trained personnel, as defined in 6VAC35-101-10 (definitions), as approved by the health authority.

B. ~~Residents admitted~~ Admitted residents who ~~pose~~ are identified during the screening required in subsection A of this section as posing a health or safety threat to themselves or others shall be separated from the detention center's general population ~~but until they are no longer a risk. During the period of separation,~~ provision shall be made for them to receive comparable services.

C. Immediate health care ~~is~~ shall be provided to admitted residents who need it.

6VAC35-101-990. Tuberculosis screening.

A. Within five days of admission to the facility, each resident shall have ~~had~~ undergone a screening assessment for tuberculosis. The screening assessment ~~can~~ shall be no older than 30 days.

B. A screening assessment for tuberculosis shall be completed annually on each resident.

C. The facility's screening practices shall be performed in a manner consistent with any current recommendations of the Virginia Department of Health, Division of Tuberculosis Prevention and Control and the federal Department of Health and Human Services Centers for Disease Control and Prevention for the detection, diagnosis, prophylaxis, and treatment of pulmonary tuberculosis.

6VAC35-101-1000. Residents' medical examination; responsibility for preexisting conditions.

A. Within five days of admission, all residents who are not directly transferred from another detention center shall be medically examined by a physician or a qualified health care practitioner operating under the supervision of a physician to determine if the resident requires medical attention or poses a threat to the health of staff or other residents. A full medical examination is not required if there is documented evidence of a complete health examination within the previous 90 days; in such cases, a physician or qualified health care practitioner shall review the resident's health care record and update as necessary.

B. Each physical examination report shall include:

1. Information necessary to determine the health and immunization needs of the resident, including:

- a. Immunizations administered at the time of the exam;
- b. Vision exam;
- c. Hearing exam;
- d. A statement of the resident's general physical condition and documentation of communicable disease status, including tuberculosis;
- e. Allergies, chronic conditions, and disabilities, if any;
- f. Nutritional requirements, including special diets, if any;
- g. Restrictions on physical activities, if any; and
- h. Recommendations for further treatment, immunizations, and other examinations indicated.

2. Date of the physical examination; and

3. Signature of a licensed physician, the physician's designee, or an official of a local health department.

C. A detention center shall not accept financial responsibility for preexisting medical, dental, psychological, or psychiatric conditions, except on an emergency basis.

6VAC35-101-1010. Infectious or communicable diseases.

A. A resident with a confirmed communicable disease shall not be housed in the general population unless a licensed physician health care professional certifies that:

- 1. The facility is capable of providing care to the resident without jeopardizing residents and staff; and
- 2. The facility is aware of the required treatment for the resident and the procedures to protect residents and staff.

B. The facility shall implement written procedures approved by a medical health care professional that:

- 1. Address staff (i) interactions with residents with infectious, communicable, or contagious medical conditions; and (ii) use of standard precautions;
- 2. Require staff training in standard precautions, initially and annually thereafter in accordance with 6VAC35-101-190 and 6VAC35-101-200; and
- 3. Require staff to follow procedures for dealing with residents who have infectious or communicable diseases.

6VAC35-101-1020. Suicide prevention.

Written procedure shall ~~provide for~~ require (i) a suicide prevention and intervention program developed in consultation with a qualified medical or mental health professional and (ii) all direct care staff to be trained and retrained in the implementation of the program, in accordance with 6VAC35-101-190 and 6VAC35-101-200.

6VAC35-101-1030. Residents' health care records.

A. Each resident's health care record shall include written documentation of (i) the initial physical examination, (ii) an annual physical examination by or under the direction of a licensed physician including any recommendation for follow-up care, and (iii) documentation of the provision of follow-up medical care recommended by the physician or as indicated by the needs of the resident.

~~B. Each physical examination report shall include:~~

~~1. Information necessary to determine the health and immunization needs of the resident, including:~~

- ~~a. Immunizations administered at the time of the exam;~~
- ~~b. Vision exam;~~
- ~~c. Hearing exam;~~
- ~~d. General physical condition, including documentation of apparent freedom from communicable disease, including tuberculosis;~~
- ~~e. Allergies, chronic conditions, and handicaps, if any;~~
- ~~f. Nutritional requirements, including special diets, if any;~~
- ~~g. Restrictions on physical activities, if any; and~~
- ~~h. Recommendations for further treatment, immunizations, and other examinations indicated.~~

~~2. Date of the physical examination; and~~

~~3. Signature of a licensed physician, the physician's designee, or an official of a local health department.~~

~~C. B.~~ Each resident's health care record shall include:

- 1. Notations of health and dental complaints and injuries ~~and~~, a summary of the ~~residents~~ resident's symptoms, and the treatment given; and

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2. A copy of the information required in subsection B of 6VAC35-101-950 (~~health care procedures~~).

6VAC35-101-1040. First aid kits.

A. A well-stocked first aid kit shall be maintained, within the facility, as well as in facility vehicles used to transport residents. The first aid kit shall contain an inventory of contents, be stocked with and in accordance with an inventory of contents, and be readily accessible for dealing with minor injuries and medical emergencies.

B. First aid kits ~~should~~ shall be monitored in accordance with ~~established facility~~ written procedures to ensure kits are maintained, stocked, and ready for use.

6VAC35-101-1050. Hospitalization and other outside medical treatment of residents.

A. When a resident needs hospital care or other medical treatment outside the detention center, a staff member or a law-enforcement officer, as appropriate, shall accompany the resident until appropriate security arrangements are made. This subdivision shall not apply to the transfer of residents under The Psychiatric Inpatient Treatment of Minors Act (§ 16.1-355 et seq. of the Code of Virginia).

~~1. The resident shall be transported safely; and~~

~~2. A staff member or a law-enforcement officer, as appropriate, shall accompany the resident until appropriate security arrangements are made. This subdivision shall not apply to the transfer of residents under The Psychiatric Inpatient Treatment of Minors Act (§ 16.1-355 et seq. of the Code of Virginia).~~

B. In accordance with applicable laws and regulations, the parent or legal guardian, as appropriate and applicable, shall be informed that the resident was taken outside the facility for medical attention as soon as is practicable.

6VAC35-101-1060. Medication.

A. All medication shall be properly labeled consistent with the requirements of the Virginia Drug Control Act (§ 54.1-3400 et seq. of the Code of Virginia). Medication prescribed for individual use shall be so labeled.

B. ~~All medication shall be securely locked, except (i) as required by 6VAC35-101-1250 (delivery of medication in postdispositional programs) or (ii) if otherwise ordered by a physician on an individual basis for keep-on-person or equivalent use. Except as (i) authorized in written procedures pursuant to 6VAC35-101-1250 or (ii) otherwise ordered by a physician on an individual basis for keep-on-person or equivalent use, all medication shall be locked securely.~~

C. All staff responsible for medication administration who do not hold a license issued by the Virginia Department of Health Professions authorizing the administration of medications shall, in accordance with the provisions of § 54.1-3408 of the

Code of Virginia, either (i) have successfully completed a medication training program approved by the Board of Nursing or (ii) be licensed by the Commonwealth of Virginia to administer medications before they ~~can~~ may administer medication as ~~stated provided in 6VAC35-101-190 (required initial training)~~. Such staff members shall undergo an annual refresher training as ~~stated provided in 6VAC35-101-200 (retraining)~~.

D. Staff authorized to administer medication shall be informed of any known side effects of the medication and the symptoms of the effects.

E. ~~A program of medication, including procedures regarding the use of over the counter medication pursuant to written or verbal orders issued by personnel authorized by law to give such orders, shall be initiated for a resident only when prescribed in writing by a person authorized by law to prescribe medication. A program of medication shall be initiated for a resident only when prescribed in writing by a person authorized by law to prescribe medication. This includes over-the-counter medication administered pursuant to a written or verbal order that is issued by personnel authorized by law to give such orders.~~

F. All medications shall be administered in accordance with the physician's or other prescriber's instructions and consistent with the requirements of ~~§ 54.2-2408 § 54.1-3408~~ of the Code of Virginia and the Virginia Drug Control Act (§ 54.1-3400 et seq. of the Code of Virginia).

G. A medication administration record shall be maintained of that identifies all medicines received by each resident and ~~shall include that includes:~~

1. Date the medication was prescribed or most recently refilled;
2. Drug Medication name;
3. Schedule for administration;
4. Strength;
5. Route;
6. Identity of the individual who administered the medication; and
7. Dates Date the medication was discontinued or changed.

H. ~~In the event of~~ If a medication incident or an adverse drug reaction occurs, first aid shall be administered if indicated. Staff shall promptly contact a poison control center, hospital, pharmacist, nurse, or physician and shall take actions as directed. If the situation is not addressed in standing orders, the attending physician shall be notified as soon as possible and the actions taken by staff shall be documented. ~~A medication incident shall mean an error made in administering a medication to a resident including the following: (i) a resident is given incorrect medication; (ii) medication is administered~~

~~to the incorrect resident; (iii) an incorrect dosage is administered; (iv) medication is administered at a wrong time or not at all; and (v) the medication is administered through an improper method. A medication error does not include a resident's refusal of appropriately offered medication.~~

I. Written procedures shall ~~provide for~~ require (i) the documentation of medication incidents, (ii) the review of medication incidents and reactions and ~~making any implementation of~~ necessary improvements, (iii) the storage of controlled substances, and (iv) the distribution of medication off campus. The procedures must be approved by a health care professional. Documentation of this approval shall be retained.

J. Medication refusals and the actions taken by staff shall be documented ~~including action taken by staff~~. The facility shall follow written procedures for managing such the refusals which shall address:

1. ~~Manner~~ The manner by which medication refusals are documented; and
2. Physician follow-up, as appropriate.

K. Disposal and storage of unused, expired, and discontinued medications and medical implements shall be in accordance with applicable laws and regulations.

L. The telephone number of a regional poison control center and other emergency numbers shall be posted on or next to each nonpay telephone that has access to an outside line in each building in which residents sleep or participate in programs.

M. Syringes and other medical implements used for injecting or cutting skin shall be locked and inventoried in accordance with facility procedures.

Article 1

Behavior, Discipline, and Room Restriction

6VAC35-101-1070. Behavior management.

A. A behavior management program shall be implemented in each facility. ~~Behavior management shall mean those principles and methods employed to help a resident achieve positive behavior and to address and correct a resident's inappropriate behavior in a constructive and safe manner in accordance with written procedures governing program expectations and the residents' and employees' safety and security.~~

B. Written procedures governing this program shall provide the following:

1. A listing list of the rules of conduct and behavioral expectations for the resident;
2. Orientation of residents to the behavior management program as required by 6VAC35-101-800 ~~(admission and orientation)~~;

3. The definition and listing list of a system of privileges and ~~sanctions~~ consequences that is used and are available for use. Sanctions, the specific behaviors or offenses that may result in the imposition of the listed privileges or consequences, and the maximum duration of the consequence for the delineated behavior or offense. Consequences (i) shall be listed in the order of their relative degree of restrictiveness; (ii) may include a "cooling-off" cooling-off period where a resident is placed in a room for no more than 60 minutes; and (iii) shall contain alternatives to ~~room confinement~~ disciplinary room restriction;

4. The specification of the staff members who may authorize the use of each privilege and sanction;

5. Documentation requirements when privileges are applied ~~and sanctions~~ or consequences are imposed;

6. The specification of the processes for implementing such procedures; and

7. Means of documenting and monitoring of the program's implementation, ~~including, but not limited to, an on-going~~ ongoing administrative review of the implementation to ensure conformity with the procedures.

C. A facility that allows for and utilizes a cooling-off period as part of its behavior management program shall develop and follow written procedures that:

1. Identify the area in which a resident will serve a cooling-off period;

2. Require that any resident serving a cooling-off period shall have a means of communicating with staff either verbally or electronically;

3. Require that staff check the resident serving a cooling-off period visually at least once every 15 minutes and more often if indicated by the circumstances; and

4. Provide that each cooling-off period is documented in a manner that (i) identifies whether the cooling-off period is resident-selected or compulsory and (ii) ensures the information is accessible to staff and is capable of being reviewed in accordance with subsection E of this section.

~~E. D.~~ D. When substantive revisions are made to the behavior management program, written information concerning the revisions shall be provided to the residents, and direct care staff shall be oriented on the changes ~~prior to~~ before implementation.

~~D. E.~~ E. The facility administrator shall ~~review~~ collect information on the detention center's behavior intervention techniques and procedures ~~at least, including the use of room restriction and cooling-off periods and shall review the information annually or more frequently to inform the facility's practice and~~ determine appropriateness for the population served.

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6VAC35-101-1080. Disciplinary process.

A. ~~Procedures.~~ Written procedures shall govern the disciplinary process ~~that and~~ shall contain the following:

1. Graduated ~~sanctions~~ consequences and progressive discipline;
2. Training on the disciplinary process and rules of conduct; and
3. Documentation on the administration of privileges and ~~sanctions~~ consequences as provided in the behavior management program.

B. ~~Disciplinary report.~~ A disciplinary report shall be completed when it is alleged that a resident has violated a rule of conduct for which room ~~confinement~~ restriction, including a bedtime earlier than that provided on the daily schedule, may be imposed as a sanction.

1. All disciplinary reports shall contain the following:
 - a. A description of the alleged rule violation, including the date, time, and location;
 - b. A ~~listing~~ list of any staff present at the time of the alleged rule violation;
 - c. The signature of the resident and the staff who completed the report; and
 - d. The ~~sanctions, if any,~~ consequences imposed, if any.
2. A disciplinary report shall not be required when a resident is ~~placed in his~~ restricted to a room or area for a "cooling off" period; as defined in 6VAC35-101-10 and in accordance with written procedures, ~~that does not exceed 60 minutes.~~

C. ~~Review of rule violation.~~ A review of the disciplinary report shall be conducted by an impartial person. After the resident receives notification of the alleged rule violation, the resident shall be provided with the opportunity to admit or deny the charge.

1. The resident may admit to the charge, in writing, and accept the sanction (i) prescribed for the offense or (ii) as amended by the impartial person.
2. The resident may deny the charge, and the impartial person shall:
 - a. Meet in person with the resident;
 - b. Review the allegation with the resident;
 - c. Provide the resident with the opportunity to present evidence, including witnesses;
 - d. ~~Provide, upon the request of the resident,~~ Upon the resident's request, provide for an impartial staff member to assist the resident in ~~the conduct of~~ conducting the review;
 - e. Render a decision and inform the resident of the decision and rationale supporting this decision;
 - f. Complete the review within 12 hours of the time of the alleged rule violation, including weekends and holidays;

~~unless the time frame ends during but excluding the resident's scheduled sleeping hours. In such circumstances, the delay shall be documented and the review shall be conducted within the same time frame thereafter;~~

- g. Document the review, including any statement of the resident, evidence, witness testimony, the decision, and the rationale for the decision; and
- h. Advise the resident of the right to appeal the decision.

D. ~~Appeal.~~ The resident shall have the right to appeal the decision of the impartial person.

1. The resident's ~~claim~~ appeal shall be reviewed by the facility administrator or designee and shall be decided within 24 hours of the alleged rule violation, including weekends and holidays, ~~unless the time frame ends during the resident's scheduled sleeping hours. In such circumstances, the delay shall be documented and the review shall be conducted within the same time frame thereafter. The review by the facility administrator may be conducted via electronic means but excluding the resident's scheduled sleeping hours.~~
2. The resident shall be notified ~~in writing~~ of the results immediately thereafter, and the signature of the resident and the staff shall be documented, indicating that the resident was informed of the results of the appeal.

E. ~~Report retention.~~ If the resident is found guilty of the rule violation, a copy of the disciplinary report shall be placed in the case record. If a resident is found not guilty of the alleged rule violation, the disciplinary report shall be removed from the resident's case record and shall be maintained as required by 6VAC35-101-330 (maintenance of residents' records). Disciplinary reports shall be maintained in the resident's case record as required by 6VAC35-101-330.

6VAC35-101-1090. Physical restraint. (Repealed.)

~~A. Physical restraint shall be used as a last resort only after less restrictive interventions have failed or to control residents whose behavior poses a risk to the safety of the resident, others, or the public.~~

1. ~~Staff shall use the least force deemed reasonable to be necessary to eliminate the risk or to maintain security and order and shall never use physical restraint as punishment or with the intent to inflict injury.~~
2. ~~Staff may physically restrain a resident only after less restrictive behavior interventions have failed or when failure to restrain would result in harm to the resident or others.~~
3. ~~Physical restraint may be implemented, monitored, and discontinued only by staff who have been trained in the proper and safe use of restraint.~~
4. ~~For the purpose of this section, physical restraint shall mean the application of behavior intervention techniques~~

involving a physical intervention to prevent an individual from moving all or part of that individual's body.

~~B. Written procedures shall govern the use of physical restraint and shall include:~~

- ~~1. The staff position who will write the report and time frame;~~
- ~~2. The staff position who will review the report and time frame;~~
- ~~3. Methods to be followed should physical restraint, less intrusive interventions, or measures permitted by other applicable state regulations prove unsuccessful in calming and moderating the resident's behavior; and~~
- ~~4. An administrative review of the use of physical restraints to ensure conformity with the procedures.~~

~~C. Each application of physical restraint shall be fully documented in the resident's record including:~~

- ~~1. Date and time of the incident;~~
- ~~2. Staff involved;~~
- ~~3. Justification for the restraint;~~
- ~~4. Less restrictive behavior interventions that were unsuccessfully attempted prior to using physical restraint;~~
- ~~5. Duration;~~
- ~~6. Description of method or methods of physical restraint techniques used;~~
- ~~7. Signature of the person completing the report and date; and~~
- ~~8. Reviewer's signature and date.~~

6VAC35-101-1100. Room confinement and isolation restriction.

~~A. Written procedures shall govern how and when residents may be confined to a locked room for both segregation and isolation purposes. governing room restriction shall address the following:~~

1. The actions or behaviors that may result in room restriction;
2. The factors that should be considered before placing a resident in room restriction, such as age, developmental level, or disability;
3. The circumstances under which a debriefing with the resident should occur, the party that should conduct the debriefing, and the topics that should be discussed in the debriefing, including the cause and impact of the room restriction and the appropriate measures post-release to support positive resident outcomes; and

4. When and under what conditions staff must consult with a mental health professional and monitor the resident as directed by the mental health professional if a resident placed in room restriction exhibits self-injurious behavior.

~~B. Whenever a resident is confined to a locked room, including but not limited to being placed in isolation room restriction, staff shall check the resident visually at least every 30 15 minutes and more often if indicated by the circumstances. Staff shall conduct a check at least every 15 minutes in accordance with approved procedures when the resident is on suicide watch.~~

~~C. Residents who are confined to a room, including but not limited to being placed in isolation, room restriction shall be afforded the opportunity for at least one hour of physical exercise, large muscle activity outside of the locked room, every calendar day unless the resident's behavior or other circumstances justify an exception. The reasons for any such exception shall be approved by the facility administrator or the facility administrator's designee and shall be documented.~~

~~D. Unless a resident is placed in disciplinary room restriction, as provided in 6VAC35-101-1105, the resident shall be afforded the same opportunities as any other resident in general population, including treatment, education, and as much time out of the resident's room as security considerations allow. Exceptions may be made in accordance with established procedures when justified by clear and substantiated evidence.~~

~~E. If a resident is confined to his placed in room restriction for any reason for more than 24 hours, the facility administrator or the facility administrator's designee shall be notified and shall provide written approval for the continued room restriction. The written approval shall include a rationale of why the continued room restriction is necessary.~~

~~F. If the confinement room restriction extends to more than 72 hours, the (i) confinement restriction and (ii) steps being taken or planned to resolve the situation shall be immediately reported immediately to the director or the facility administrator's designee. If this report is made verbally, it shall be followed immediately with a written, faxed, or secure email report in accordance with written procedures. For room restriction anticipated to exceed 72 hours, the medical and mental health status of the resident shall be assessed by a qualified medical health professional or qualified mental health professional within the initial 72-hour room restriction period and on a daily basis after the 72-hour period has elapsed until the resident is released from room restriction.~~

~~F. G. Room confinement, including isolation or administrative confinement, restriction shall not exceed five consecutive days except when ordered by a medical provider or a qualified mental health professional.~~

~~G. H. When confined to a placed in room restriction, the resident shall have a means of communication with staff, either verbally or electronically.~~

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~~H. I. The facility administrator or the facility administrator's designee shall make daily personal contact with each resident who is confined to a locked placed in room, including being placed in isolation, each day of confinement restriction in order to ensure that all such residents, with the exception of those placed in disciplinary room restriction, are restricted only for the minimum amount of time required to address the resident's negative behavior or threat. During the daily visit, the facility administrator shall assess and document (i) whether the resident is prepared to return to general population, unless the resident is placed in disciplinary room restriction for a specified time period; and (ii) whether the resident requires a mental health evaluation.~~

~~I. During isolation, the resident is not permitted to participate in activities with other residents and all activities are restricted, with the exception of (i) eating, (ii) sleeping, (iii) personal hygiene, (iv) reading, and (v) writing.~~

~~J. Residents who are placed in room restriction shall be housed no more than one to a room.~~

~~K. The provisions of this section shall apply to all forms of room restriction, including disciplinary room restriction, unless otherwise provided.~~

6VAC35-101-1105. Disciplinary room restriction.

~~A. Unless otherwise provided, when a resident is placed in disciplinary room restriction, the provisions of 6VAC35-101-1100 shall apply.~~

~~B. Written procedures governing disciplinary room restriction shall:~~

~~1. Specify that residents may be placed in room restriction only after application of the disciplinary process, as provided for in 6VAC35-101-1080; and~~

~~2. Comply with the behavior management requirements set out in 6VAC35-101-1070.~~

~~C. Residents placed in disciplinary room restriction generally shall not be permitted to participate in activities with other residents, and all activities are restricted unless an exception is issued by the facility administrator or his designee. The following activities, however, shall not be restricted: (i) eating, (ii) sleeping, (iii) personal hygiene, (iv) any legally required educational programming or special education services; and (v) large muscle activity, except as permitted in 6VAC35-101-1100 C. The facility administrator or the facility administrator's designee shall provide opportunities for residents placed in disciplinary room restriction to engage in reading or writing activities in accordance with the safety and security needs of the resident.~~

6VAC35-101-1110. Administrative — confinement. (Repealed.)

~~A. Residents shall be placed in administrative confinement only by the facility administrator or designee, as a last resort~~

~~for the safety of the residents. The reason for such placement shall be documented in the resident's case record.~~

~~B. Residents who are placed in administrative confinement shall be housed no more than two to a room. Single occupancy rooms shall be available when indicated for residents with severe medical disabilities, residents suffering from serious mental illness, sexual predators, residents who are likely to be exploited or victimized by others, and residents who have other special needs for single housing.~~

~~C. Residents who are placed in administrative confinement shall be afforded basic living conditions approximating those available to the facility's general population and, as provided for in approved procedures, shall be afforded privileges similar to those of the general population. Exceptions may be made in accordance with established procedures when justified by clear and substantiated evidence. If residents who are placed in administrative confinement are confined to a room or placed in isolation, the provisions of 6VAC35-101-1100 (room confinement and isolation) and 6VAC35-1140 (monitoring restrained residents) apply, as applicable.~~

~~D. Administrative confinement means the placement of a resident in a special housing unit or designated individual cell that is reserved for special management of residents for purposes of protective custody or the special management of residents whose behavior presents a serious threat to the safety and security of the facility, staff, general population, or themselves. For the purpose of this section, protective custody shall mean the separation of a resident from the general population for protection from or for other residents for reasons of health or safety.~~

Article 2

Physical Restraint

6VAC35-101-1115. Physical restraint.

~~A. Physical restraint shall be used as a last resort only after less restrictive interventions have failed or to control residents whose behavior poses a risk to the safety of the resident, staff, or others.~~

~~1. Staff shall use the least force deemed reasonably necessary to eliminate the risk or to maintain security and order and shall never use physical restraint as punishment or with the intent to inflict injury.~~

~~2. Physical restraint may be implemented, monitored, and discontinued only by staff who have been trained in the proper and safe use of restraint in accordance with the requirements in 6VAC35-101-190 and 6VAC35-101-200.~~

~~B. Each detention center shall implement written procedures governing the use of physical restraint, which shall include:~~

~~1. The staff position that will write the report and timeframe for completing the report;~~

2. The staff position that will review the report and timeframe for completing the review;

3. Methods to be followed should physical restraint, less intrusive interventions, or measures permitted by other applicable state regulations prove unsuccessful in calming and moderating the resident's behavior; and

4. An administrative review of the use of each physical restraint to ensure conformity with the procedures.

C. Each application of physical restraint shall be fully documented in the resident's case record. The document shall include:

1. Date and time of the incident;

2. Staff involved;

3. Justification for the restraint;

4. Less restrictive behavior interventions that were unsuccessfully attempted before using physical restraint;

5. Duration of the restraint;

6. Description of the method or methods of physical restraint techniques used;

7. Signature of the person completing the report and date; and

8. Reviewer's signature and date.

Article 3

Mechanical Restraints and Protective Devices

6VAC35-101-1130. Mechanical restraints and protective devices.

~~A. Written procedure shall govern the use of mechanical restraints. Such procedures shall be approved by the department and shall specify:~~

~~1. The conditions under which handcuffs, waist chains, leg irons, disposable plastic cuffs, leather restraints, and a mobile restraint chair may be used;~~

~~2. That the facility administrator or his designee shall be notified immediately upon using restraints in an emergency situation;~~

~~3. That restraints shall never be applied as punishment or a sanction;~~

~~4. That residents shall not be restrained to a fixed object or restrained in an unnatural position;~~

~~5. That each use of mechanical restraints, except when used to transport a resident or during video court hearing proceedings, shall be recorded in the resident's case file or in a central log book; and~~

~~6. That a written record of routine and emergency distribution of restraint equipment be maintained.~~

~~B. Written procedure shall provide that (i) all staff who are authorized to use restraints shall receive training in such use, including how to check the resident's circulation and how to check for injuries and (ii) only trained staff shall use restraints.~~

~~A. Mechanical restraints and protective devices may be used for the following purposes subject to the restrictions enumerated in this section: (i) to control residents whose behavior poses an imminent risk to the safety of the resident, staff, or others; (ii) for purposes of controlled movement, either from one area of the facility to another or to a destination outside the facility; and (iii) to address emergency situations.~~

~~B. A detention center that uses mechanical restraints or protective devices shall observe the following general requirements:~~

~~1. Mechanical restraints and protective devices shall be used only for as long as necessary to address the purposes established in subsection A of this section. Once the imminent risk to safety has been abated, the resident has reached the resident's intended destination within the facility or has returned to the facility from a destination off-site, or the emergency situation has been resolved, the mechanical restraint or protective device shall be removed;~~

~~2. The facility administrator or the facility administrator's designee shall be notified immediately upon using mechanical restraints or protective devices in an emergency situation;~~

~~3. The facility shall not use mechanical restraints or protective devices as a punishment or a sanction;~~

~~4. Residents shall not be restrained to a fixed object or restrained in an unnatural position. For purposes of this section, securing a resident to a hospital bed or wheelchair may be permitted in an outside medical setting upon written approval by the facility administrator;~~

~~5. A mental health clinician, qualified mental health professional, or other qualifying licensed medical professional may order termination of a mechanical restraint or protective device at any time upon determining that the item poses a health risk;~~

~~6. Each use of a mechanical restraint or protective device, except when used to transport a resident or during video court hearing proceedings, shall be recorded in the resident's case file or in a central log book;~~

~~7. A written system of accountability shall be in place to ensure routine and emergency distribution of mechanical restraints and protective devices; and~~

~~8. All staff who are authorized to use mechanical restraints or protective devices shall receive training in such use in accordance with 6VAC35-101-190 and 6VAC35-101-200, and only trained staff shall use restraint or protective devices.~~

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C. A detention center that uses a mechanical restraint to control a resident whose behavior poses a safety risk in accordance with subdivision A 1 of this section shall notify a health care provider and a mental health clinician or qualified mental health professional before continuing to use the restraint and, if applicable, the accompanying protective device if the imminent risk has been abated, but the facility determines that continued use of the mechanical restraint is necessary to maintain security due to the resident's ongoing credible threat to injure the resident's self or others. This may include instances in which the resident verbally expresses the intent to continue the actions that required the restraint.

D. A detention center may not use a protective device unless such use is in connection with a restraint and shall remove the device when the resident is released from the restraint.

E. In addition to the requirements in subsections A through D of this section, if staff in a juvenile detention center use a spit guard to control resident behavior, they shall observe the following requirements:

1. Staff may not use a spit guard unless it possesses the following characteristics:

- a. The spit guard's design may not inhibit the resident's ability to breathe;
- b. The spit guard must be constructed to allow for visibility; and
- c. The spit guard must be manufactured and sold specifically for the prevention of biting or spitting.

2. The spit guard may be used only on a resident who (i) previously has bitten or spit on a person at the facility or (ii) in the course of a current restraint, threatens or attempts to spit on or bite or actually spits on or bites a staff member.

3. The spit guard must be applied in a manner that will not inhibit the resident's ability to breathe.

4. While the spit guard remains in place, staff shall provide for the resident's reasonable comfort and ensure the resident's access to water and meals, as applicable.

5. Staff must employ constant supervision of the resident while the spit guard remains in place to observe whether the resident exhibits signs of respiratory distress. If any sign of respiratory distress is observed, staff shall take immediate action to prevent injury and to notify supervisory staff.

6. Staff may not use a spit guard on a resident who is unconscious, vomiting, or in obvious need of medical attention.

6VAC35-101-1140. Monitoring restrained residents placed in mechanical restraints.

A. Written procedure shall provide that when if a resident is placed in mechanical restraints, staff shall:

1. Provide for the resident's reasonable comfort and ensure the resident's access to water, meals, and toilet; and

2. Make a ~~direct personal~~ face-to-face check on the resident at least every 15 minutes and more often if the resident's behavior warrants, ~~such checks shall include monitoring the resident's circulation in accordance with the procedure provided for in 6VAC35-101-1130 B.~~ Staff shall attempt to engage verbally with the resident during each periodic check. These efforts may include explaining the reasons for which the resident is being restrained or the steps necessary to be released from the restraint or otherwise attempting to deescalate the resident. During each check, a health-trained staff member shall monitor the resident for signs of circulation and for injuries.

B. If a resident remains in a mechanical restraint for a period that exceeds one hour, the resident shall be permitted to exercise each limb for a minimum of 10 minutes every two hours to prevent blood clots.

C. When a resident is placed in mechanical restraints for more than two hours cumulatively in a 24-hour period, with the exception of use in routine transportation of residents, staff ~~shall immediately~~ shall consult with a health care provider and a qualified mental health professional or mental health clinician. This consultation shall be documented.

~~C. D. If the resident, after being placed in mechanical restraints, exhibits self-injurious behavior, staff shall (i) staff shall immediately take appropriate action to ensure the threat or harm is stabilized; (ii) consult with and document that they have consulted with a mental health clinician or qualified mental health professional immediately thereafter and (iii) monitor the resident shall be monitored in accordance with established protocols, including constant supervision, if appropriate. Any such protocols shall be in compliance with the procedures required by 6VAC35-101-1150 (restraints for medical and mental health purposes).~~

6VAC35-101-1145. Written procedures regarding mechanical restraints and protective devices.

A detention center that uses mechanical restraints or protective devices shall develop and implement written procedures approved by the facility administrator that reflect the requirements established in this article.

6VAC35-101-1150. Restraints for medical and mental health purposes (Repealed). (Repealed.)

Written procedure shall govern the use of restraints for medical and mental health purposes. Written procedure shall identify the authorization needed; when, where, and how restraints may be used; for how long; and what type of restraint may be used.

Article 4
Mechanical Restraint Chairs

6VAC35-101-1153. Mechanical restraint chair; general provisions.

A detention center that utilizes a mechanical restraint chair shall observe the following requirements, regardless of whether the chair is used for purposes of controlled movement in accordance with 6VAC35-101-1154 or for other purposes in accordance with 6VAC35-101-1155:

1. The restraint chair shall never be applied as punishment or as a sanction.
2. All staff authorized to use the restraint chair shall receive training in such use in accordance with 6VAC35-101-190 and 6VAC35-101-200.
3. The facility administrator or the facility administrator's designee shall provide approval before a resident may be placed in the restraint chair.
4. Staff shall notify the health authority, designated in accordance with 6VAC35-101-930, immediately upon placing the resident in the restraint chair to assess the resident's medical and mental health condition, to ascertain whether the restraint is contraindicated based on the resident's physical condition or behavior or whether other accommodations are necessary, and to advise whether, on the basis of serious danger to self or others, the resident should be in a medical or mental health unit for emergency involuntary treatment. The requirements of this subdivision shall not apply when the restraint chair is requested by a resident for whom such voluntary use is part of an approved plan of care by a mental health clinician or qualified mental health professional in accordance with 6VAC35-101-1155
C.
5. If the resident, after being placed in the mechanical restraint chair, exhibits self-injurious behavior, staff shall (i) take appropriate action to ensure the threat or harm is stabilized; and (ii) consult a mental health clinician or qualified mental health professional immediately thereafter and obtain approval for continued use of the restraint chair.
6. The health authority, a mental health clinician, a qualified mental health professional, or other qualifying licensed medical professional may order termination of restraint chair use at any time upon determining that use of the chair poses a health risk.
7. Each use of the restraint chair shall constitute a serious incident, to which the provisions of 6VAC35-101-80 shall apply.
8. Each use of the restraint chair shall be documented in the resident's case file or in a central logbook. The documentation shall include:
 - a. Date and time of the incident;

- b. Staff involved in the incident;
 - c. Justification for the restraint;
 - d. Less restrictive interventions that were attempted or an explanation of why the restraint chair is the least restrictive intervention available to ensure the resident's safe movement;
 - e. Duration of the restraint;
 - f. Signature of the person documenting the incident and date;
 - g. Indication that all applicable approvals required in this article have been obtained; and
 - h. Reviewer's signature and date.
9. Staff shall conduct a debriefing of the restraint after releasing the resident from the chair.

6VAC35-101-1154. Mechanical restraint chair use for controlled movement; conditions.

A. A detention center shall be authorized to use a mechanical restraint chair for purposes of controlled movement of a resident from one area of the facility to another, provided the following conditions are satisfied:

1. The resident's refusal to move from one area of the facility to another poses a direct and immediate threat to the resident or others or interferes with required facility operations; and
2. Use of the restraint chair is the least restrictive intervention available to ensure the resident's safe movement.

B. When the facility utilizes the restraint chair in accordance with this section, staff shall remove the resident from the chair immediately upon reaching the intended destination. If staff, upon reaching the intended destination, determine that continued restraint is necessary, staff shall consult with a mental health clinician for approval of the continued restraint.

6VAC35-101-1155. Mechanical restraint chair use for purposes other than controlled movement; conditions for use.

A. A detention center shall be authorized to use a mechanical restraint chair for purposes other than controlled movement provided the following conditions are satisfied:

1. The resident's behavior or actions present a direct and immediate threat to the resident or others;
2. Less restrictive alternatives were attempted but were unsuccessful in bringing the resident under control or abating the threat;
3. The resident remains in the restraint chair only for as long as necessary to abate the threat or help the resident gain self-control.

B. Once the direct threat is abated, if staff determines that continued restraint is necessary to maintain security due to the

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resident's ongoing credible threat to injure resident self or others, staff shall consult a mental health clinician or qualified mental health professional for approval of the continued restraint. The ongoing threat may include instances in which the resident verbally expresses the intent to continue the actions that required the restraint.

C. The detention center shall be excused from the requirements in subsections A and B of this section when the restraint chair is requested by a resident for whom such voluntary use is part of an approved plan of care by a qualified mental health professional or mental health clinician.

D. Whenever a resident is placed in a restraint chair for purposes other than controlled movement, staff shall observe the following monitoring requirements:

1. Employ constant, one-on-one supervision until the resident is released from the chair. Staff shall attempt to engage verbally with the resident during the one-on-one supervision. These efforts may include explaining the reasons for which the resident is being restrained or the steps necessary to be released from the restraint or otherwise attempting to deescalate the resident;
2. Ensure that a health-trained staff monitors the resident for signs of circulation and for injuries at least once every 15 minutes in accordance with written procedures; and
3. Ensure that the resident is reasonably comfortable and has access to water, meals, and toilet.

6VAC35-101-1156. Monitoring residents placed in a mechanical restraint chair.

A. If a resident remains in the restraint chair for a period that exceeds one hour, the resident shall be permitted to exercise each limb for a minimum of 10 minutes every two hours to prevent blood clots.

B. A detention center shall ensure that a video record of the following is captured and retained for a minimum of three years in accordance with 6VAC35-101-40:

1. The placement of a resident in a restraint chair when a resident is restrained for purposes of controlled movement;
2. The entire restraint, from the time the resident is placed in the restraint chair until the resident's release when a resident is restrained in the chair for purposes other than controlled movement. The detention center may satisfy this requirement by positioning the restraint chair within direct view of an existing security camera.

6VAC35-101-1157. Department monitoring visits; annual reporting; board review.

A. If a detention center uses a mechanical restraint chair to restrain a resident, regardless of the purpose or duration of the use, the detention center shall be subject to a monitoring visit conducted by the department pursuant to the authority

provided in 6VAC35-20-60. The purpose of the monitoring visit shall be to assess the detention center's compliance with the provisions of this article.

B. Upon completion of the monitoring visit, the department shall provide the detention center with a written report of its findings in accordance with 6VAC35-20-90. A detention center cited for noncompliance with a regulatory requirement pursuant to this monitoring visit may request a variance or appeal the finding of noncompliance in accordance with 6VAC35-20-90.

C. The department shall document each monitoring visit conducted pursuant to subsection A of this section and provide a written report to the board annually that details, at a minimum, the following information regarding each separate incident in which the restraint chair is used:

1. The facility in which the chair is used;
2. The date and time of the use;
3. A brief description of the restraint, including the purpose for which the restraint was applied, the duration of the restraint, and the circumstances surrounding the resident's release from the restraint;
4. The extent to which the detention center complied with the regulatory requirements related to mechanical restraint chair use, as set forth in 6VAC35-101-1153 through 6VAC35-101-1158; and
5. The plans identified to address findings of noncompliance, if applicable.

D. The annual report shall be placed on the agenda for the next regularly scheduled board meeting for the board's consideration and review.

6VAC35-101-1158. Written procedures regarding mechanical restraint chairs.

A detention center that uses a mechanical restraint chair to restrain a resident shall develop and implement written procedures approved by the facility administrator that reflect the requirements established in this article.

6VAC35-101-1160. Approval of postdispositional detention programs.

A detention center that accepts placements in a postdispositional detention program, as defined ~~herein~~ in 6VAC35-101-10, must be approved by the board certified by the director to operate a postdispositional detention program. The certificate issued by the board director shall state that the detention center is approved to operate a postdispositional detention program and the maximum number of residents that may be included in the ~~postdispositional detention~~ program. ~~The board will base its approval of the postdispositional detention program on the program's compliance with provisions of 6VAC35-101-1160 (approval of~~

~~postdispositional detention programs) through 6VAC35-101-1270 (release from a postdispositional detention program).~~

6VAC35-101-1170. Agreement with court service unit.

The postdispositional detention program shall ~~request~~ enter into a written agreement with the court service unit of the ~~committing~~ court defining ordering placement into the program. The agreement shall define working relationships and responsibilities in the implementation and utilization of the postdispositional detention program.

6VAC35-101-1180. Placements in postdispositional detention programs.

A. A detention center that accepts placements in a postdispositional detention program shall have written ~~procedure~~ procedures ensuring reasonable utilization of the detention center for both predispositional detention and the postdispositional detention program. This procedure shall provide for a process to ensure that the postdispositional detention program does not cause the detention center to exceed its rated capacity.

B. When a court orders a resident detained in a postdispositional detention program, the detention center shall:

1. Obtain from the court service unit a copy of the court order, the resident's most recent social history, and any other written information considered by the court during the sentencing hearing; and
2. Develop a written plan with the court service unit within five business days to enable such residents to take part in one or more locally available treatment programs appropriate for their rehabilitation that may be provided in the community or at the detention center. The plan shall address how the resident will be transported and may authorize detention center staff, court service unit staff, or any other responsible adult approved by the detention center to carry out the transport.

C. When a detention center accepts placements in a postdispositional detention program, the detention center shall:

1. Provide programs or services for the residents in the postdispositional detention program that are not routinely available to predispositionally detained residents. This requirement shall not prohibit residents in the postdispositional detention program from participating in predispositional services or any other available programs; and
2. Establish a schedule clearly identifying the times and locations of programs and services available to residents in the postdispositional detention program.

D. Upon the receipt of (i) a referral of the probation officer of a potential resident who meets the prerequisite criteria for placement provided in § 16.1-284.1 of the Code of Virginia or (ii) an order of the court, the detention center shall conduct the

statutorily required assessment as to whether a resident is an appropriate candidate for placement in a postdispositional detention program. The assessment shall ~~assess~~ determine the resident's need for services using a process that is outlined in writing, approved by the department, and agreed to by both the facility administrator and the director of the court service unit. Based on these identified needs, the assessment shall indicate the appropriateness of the postdispositional detention program for the resident's rehabilitation.

E. When programs or services are not available in the detention center, a resident in a postdispositional detention program may be considered for temporary release from the detention center to access such programs or services in the community.

1. ~~Prior to~~ Before any such temporary release, both the detention center and the court service unit shall agree in writing as to the suitability of the resident to be temporarily released for this purpose.
2. Residents who present a significant risk to themselves or others shall not be considered suitable candidates for participation in programs or services outside the detention center or for paid employment outside the detention center. Such residents may participate in programs or services within the detention center, as applicable, appropriate, and available.

6VAC35-101-1190. Program description.

The postdispositional detention program shall have a written statement of its:

1. Purpose and philosophy;
2. Treatment objectives;
3. Criteria and requirements for accepting residents;
4. Criteria for measuring a resident's progress;
5. General rules of conduct and the behavior management program, with specific expectations for behavior and appropriate sanctions;
6. Criteria and procedures for terminating services, including terminations ~~prior to~~ before the resident's successful completion of the program;
7. Methods and criteria for evaluating program effectiveness; and
8. Provisions for appropriate custody, supervision, and security when programs or services are delivered outside the detention center.

6VAC35-101-1200. Individual service plans in postdispositional detention programs.

A. ~~A written plan of action, the~~ The individual service plan, shall be developed and placed in the resident's record within 30

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days following admission and implemented immediately thereafter. The individual service plan shall:

1. Be revised as necessary and reviewed at intervals; and
2. Specify (i) measurable ~~short-term and long-term~~ goals; (ii) the objectives, strategies, and time frames for reaching the goals; and (iii) the individuals responsible for carrying out the plan.

B. Individual service plans shall describe in measurable terms the:

1. Strengths and needs of the resident;
2. Resident's current level of functioning;
3. Goals, objectives, and strategies established for the resident;
4. Projected family involvement; and
5. Projected date for accomplishing each objective.

C. Each individual service plan shall include the date it was developed and the signature of the person who developed it.

D. The resident and facility staff shall participate in the development of the individual service plan.

E. The (i) supervising agency and (ii) resident's parents, legal guardian, or legally authorized representative, if appropriate and applicable, shall be given the opportunity to participate in the development of the resident's individual service plan.

F. The initial individual service plan shall be distributed to the resident, the resident's parents or legal guardian as appropriate and applicable, and the applicable court service unit.

G. Staff responsible for daily implementation of the resident's individual service plan shall be able to describe the resident's behavior in terms of the objectives in the plan.

6VAC35-101-1210. Progress reports in postdispositional detention programs.

A. There shall be a documented review of each resident's progress in accordance with § 16.1-284.1 of the Code of Virginia. The review shall report the resident's:

1. ~~Resident's progress~~ Progress toward meeting the plan's objectives;
2. Family's involvement; and
3. Continuing needs ~~of the resident~~.

B. Each progress report shall include (i) the date it was developed and (ii) the signature of the person who developed it.

6VAC35-101-1220. Case management services in postdispositional detention programs.

A. The facility shall implement and follow written procedures governing case management services that shall address:

1. Helping the resident and the parents or legal guardian ~~to~~ understand the effects on the resident of separation from the family and the effect of group living;

2. Assisting the resident and the family ~~to maintain in~~ maintaining their relationships and ~~prepare~~ preparing for the resident's future care;

3. Utilizing appropriate community resources to provide services and maintain contacts with such resources;

4. Helping the resident strengthen his capacity to function productively in interpersonal relationships;

5. Conferring with the child care staff to help them understand the resident's needs in order to promote adjustment to group living; and

6. Working with the resident, the family, or any placing agency that may be involved in planning for the resident's future and in preparing the resident for the return home or to another family, for independent living, or for other residential care.

B. The provision of case management services shall be documented in the case record.

6VAC35-101-1230. Residents' health care records in postdispositional detention programs.

A. In addition to the requirements of 6VAC35-101-1030 (~~residents' health care records~~), each resident's health care record shall include or document all efforts to obtain treatment summaries of ongoing psychiatric or other mental health treatment and reports, if applicable.

B. In addition to the information required by 6VAC35-101-950 (~~health care procedures~~), the following information shall be readily accessible to staff who may ~~have~~ need to respond to a medical or dental emergency:

1. Medical insurance company name and policy number or Medicaid number; and

2. Written permission for emergency medical care, dental care, and obtaining immunizations or a procedure and contacts for obtaining consent.

6VAC35-101-1240. Services by licensed professionals in postdispositional detention programs.

When a postdispositional detention program refers a resident to a licensed professional in private practice, the program shall ~~check with the appropriate licensing authority's Internet web page or by other appropriate means to~~ verify that the individual is appropriately licensed.

6VAC35-101-1250. Delivery of medication in postdispositional detention programs.

A detention center that accepts postdispositional placements exceeding 30 consecutive days pursuant to ~~§ 16.1-284~~ § 16.1-284.1 of the Code of Virginia shall ~~have~~ implement and follow

written procedures, approved by its health authority, that either ~~permits permit~~ or ~~prohibits prohibit~~ self-medication by postdispositional residents. The procedures may distinguish between residents who receive postdispositional services entirely within the confines of the detention center and those who receive any postdispositional services outside the detention center. The procedures shall conform to the specific requirements of the Drug Control Act (§ 54.1-3400 et seq. of the Code of Virginia).

6VAC35-101-1270. Release from a postdispositional detention program.

In addition to the requirements in 6VAC35-101-840 (~~discharge~~), information concerning the resident's need for continuing therapeutic interventions, educational status, and other items important to the resident's continuing care shall be provided to the legal guardian or legally authorized representative, as appropriate, at the time of the resident's ~~discharge~~ release from the facility.

~~DOCUMENTS INCORPORATED BY REFERENCE (6VAC35-101)~~

~~Guidelines for Transporting Juveniles in Detention, revised September 8, 2004, Virginia Department of Juvenile Justice~~

~~Compliance Manual — Juvenile Secure Detention Centers, effective January 1, 2014, Virginia Department of Juvenile Justice~~

VA.R. Doc. No. R17-4832; Filed April 28, 2021, 11:44 a.m.

TITLE 8. EDUCATION

STATE BOARD OF EDUCATION

Withdrawal of Proposed Regulation

Title of Regulation: **8VAC20-40. Regulations Governing Educational Services for Gifted Students (amending 8VAC20-40-20, 8VAC20-40-40, 8VAC20-40-55, 8VAC20-40-60).**

Statutory Authority: § 22.1-16 of the Code of Virginia.

Notice is hereby given that the State Board of Education has WITHDRAWN the regulatory action for 8VAC20-40, Regulations Governing Educational Services for Gifted Students, the Notice of Intended Regulatory Action for which was published in [36:2 VA.R. 89 September 16, 2019](#). On March 12, 2021, the State Board of Education received two letters from the African American Superintendents Advisory Council (AASAC): one letter addressing advancing racial equity in Virginia's public schools, and another letter encouraging the board to issue guidance on the governance of academic-year Governor's Schools. The impetus behind the letter requesting the board to issue guidance on the governance of academic-year Governor's Schools came from House Bill

2305 introduced during the 2021 Session of the General Assembly, requiring the board to "issue guidance on the governance of academic year Governor's Schools, including communication and outreach practices, admissions policies, and guidelines on diversity, equity, and inclusion training." This bill was passed by indefinitely in the Senate's Education and Health Committee. Subsequently and pursuant to § 2.2-4016 of the Code of Virginia, the State Board of Education voted to withdraw the proposed stage of the regulatory action regarding 8VAC20-40, Regulations Governing Educational Services for Gifted Students, at the board's April 22, 2021, meeting to provide staff and the board additional time to respond to potential action items and solicit public feedback and engagement.

Agency Contact: Donna Poland, Specialist, Governor's Schools and Gifted Education, Department of Education, 101 North 14th Street, Richmond, VA 23219, telephone (804) 225-2884, or email donna.poland@doe.virginia.gov.

VA.R. Doc. No. R20-6142; Filed April 27, 2021, 3:05 p.m.

Withdrawal of Proposed Regulation

Title of Regulation: **8VAC20-131. Regulations Establishing Standards for Accrediting Public Schools in Virginia (amending 8VAC20-131-5; adding 8VAC20-131-185).**

Statutory Authority: § 22.1-253.13 of the Code of Virginia.

Notice is hereby given that the State Board of Education has WITHDRAWN the proposed regulatory action for 8VAC20-131, Regulations Establishing Standards for Accrediting Public Schools in Virginia, that was published in [31:24 VA.R. 2151-2156 July 27, 2015](#). Chapter 183 of the 2021 Acts of Assembly requires the board to promulgate regulations establishing standards for the accreditation of public virtual schools that enroll students full time. The original intent of the legislation was to address situations where a student would be enrolled in a public schools and take all coursework virtually, rather than in a traditional "brick and mortar" environment. For reasons unknown to Department of Education staff, this regulatory action did not proceed to the final stage.

The climate and necessity of virtual learning expanded drastically in 2020 due to the COVID-19 pandemic. The pandemic has highlighted areas of need for Virginia's public education system to ensure equity of opportunity for all students. As school divisions pivoted to support students through multiple instructional methods including hybrid and virtual formats, several factors have had a large impact on consistent, effective implementation of quality instruction, including (i) lack of broadband infrastructure and access for all students; (ii) lack of devices for each student to access virtual instruction; (iii) lack of capacity of school divisions and professional development for educators to support the shift to virtual teaching and learning; and (iv) the inadequacy of a virtual format to meet many students' needs, particularly students with special needs and younger students. While promulgating regulations establishing standards for

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accreditation of public virtual schools may not address each aspect of those inadequacies, more consistent standards and expectations would likely have a positive impact on quality instruction and student achievement. The State Board of Education intends to start a new regulatory action by issuing a new Notice of Intended Regulatory Action in the coming months.

Agency Contact: Holly M. Coy, Assistant Superintendent, Policy, Equity and Communications, State Board of Education, P.O. Box 2120, Richmond, VA 23218-2120, telephone (804) 225-2092, or email holly.coy@doe.virginia.gov.

VA.R. Doc. No. R12-3261; Filed April 27, 2021, 3:02 p.m.

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TITLE 9. ENVIRONMENT

STATE AIR POLLUTION CONTROL BOARD

Final Regulation

REGISTRAR'S NOTICE: The State Air Pollution Control Board is claiming an exemption from the Administrative Process Act in accordance with Item 378 B of Chapter 1289 of the 2020 Acts of Assembly and Chapter 56 of the 2020 Acts of Assembly, Special Session I. Item 378 B exempts the actions of the board relating to the adoption of regulations necessary to implement the provisions of the acts.

Title of Regulation: **9VAC5-145. Regulations for Control of Greenhouse Gases (Rev. D20) (adding 9VAC5-145-100 through 9VAC5-145-150).**

Statutory Authority: § 10.1-1308 of the Code of Virginia.

Effective Date: June 1, 2021.

Agency Contact: Gary Graham, Department of Environmental Quality, 1111 East Main Street, Suite 1400, P.O. Box 1105, Richmond, VA 23218, telephone (804) 698-4103, FAX (804) 698-4178, or email gary.graham@deq.virginia.gov.

Summary:

Pursuant to Item 378 B of Chapter 1289 of the 2020 Acts of Assembly and Chapter 56 of the 2020 Acts of Assembly, Special Session I, the amendments incorporate by reference the prohibitions and restricted end-uses of 40 CFR Part 82, Subpart G, Appendices U and V and provide exemptions for (i) sell-through and use of products and equipment manufactured prior to the compliance dates in the regulation that are required by the federal American Innovation and Manufacturing Act of 2020 and (ii) extruded polystyrene boardstock products and equipment manufactured in Virginia intended only for sale and distribution outside of Virginia.

Chapter 145

Regulations for Control of Greenhouse Gases

9VAC5-145-100. Applicability, prohibitions, and exemptions.

A. The sale, lease, rent, installation, or entry into commerce in the Commonwealth of Virginia by any person of any products or equipment that use or will use hydrofluorocarbons for the applications and end-uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, is prohibited after the effective date specified in 9VAC5-145-120.

B. Except where an existing system is retrofitted, nothing in this chapter requires a person that acquired prior to the effective date of the restrictions specified in 9VAC5-145-120, a product or equipment containing a substance prohibited under this chapter, to cease use of that product or equipment.

C. The prohibitions of this chapter do not apply to products or equipment in specific applications and end-uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, that were manufactured prior to the effective date of the restrictions specified in 9VAC5-145-120.

D. Notwithstanding subsection A of this section, the uses of hydrofluorocarbons specified in subdivisions 1 and 2 of this subsection are exempt from the prohibitions for the applications and end-uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017.

1. This chapter does not restrict the use of hydrofluorocarbons in the manufacturing process by extruded polystyrene boardstock and billet manufacturers located in the Commonwealth of Virginia to produce products for sale and distribution outside of the Commonwealth, as long as the manufacturer and the distributors of that product can demonstrate (i) that the extruded polystyrene boardstock or billet product is intended for distribution and sale, lease, rental, installation, or entry into commerce outside of the Commonwealth of Virginia and (ii) that the manufacturer and distributors have taken reasonable precautions to assure that the extruded polystyrene boardstock or billet product is not distributed within the Commonwealth for sale, lease, rental, installation, or entry into commerce. This exemption does not apply to extruded polystyrene boardstock or billet products that are sold, leased, rented, installed, or otherwise entered into commerce by any person to retail outlets within the Commonwealth. This exemption shall expire on the date specified in 9VAC5-145-130 B.

2. This chapter does not restrict the management or use of a regulated substance for which the Administrator of the U. S. Environmental Protection Agency has provided a mandatory allocation of allowances pursuant to Section 103

(e)(4)(B)(iv)(I) of the American Innovation and Manufacturing Act of 2020 in Division S, Innovation for the Environment, of the Consolidated Appropriations Act, 2021 (H.R. 133 (116th)) for the exclusive use in applications solely for:

- a. A propellant in metered dose inhalers;
- b. Defense sprays;
- c. Structural composite preformed polyurethane foam for marine use and trailer use;
- d. The etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector;
- e. Mission-critical military end-uses, such as armored vehicle engine and shipyard fire suppression systems and systems used in deployable and expeditionary applications; and
- f. Onboard aerospace fire suppression.

3. The exemption in subdivision 2 of this subsection shall expire on December 28, 2025, or in the event the Administrator of the U.S. Environmental Protection Agency has extended providing the allocation of allowances for certain essential uses pursuant to Section 103 (e)(4)(B)(v)(II) of the American Innovation and Manufacturing Act of 2020 in Division S, Innovation for the Environment, of the Consolidated Appropriations Act, 2021 (H.R. 133 (116th)) to the date that extension ends, whichever is later.

E. The provisions of this chapter apply throughout the Commonwealth of Virginia.

9VAC5-145-110. Definitions.

A. For the purpose of applying this chapter and the prohibitions on hydrofluorocarbons for the applications and end-uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, the words or terms shall have the meanings given them in subsection C of this section.

B. As used in this chapter, all terms not defined in this section shall have the meanings given them in 9VAC5-10, General Definitions, unless otherwise required by context.

C. Terms defined.

"Aerosol propellant" means a liquefied or compressed gas, used in whole or in part, such as a cosolvent, to expel a liquid or other material from the same self-pressurized container or from a separate container.

"Air conditioning equipment" means chillers, both centrifugal chillers and positive displacement chillers, intended for comfort cooling of occupied spaces.

"Application" means a specific use within a major industrial sector end-use.

"Bunstock" means a large solid block-like structure formed during the production of polyurethane, polyisocyanurate, phenolic, or polystyrene insulation.

"Capital cost" means an expense incurred in the production of goods or in rendering services, including the cost of engineering, purchase, and installation of components or systems, and instrumentation; and contractor and construction fees.

"Centrifugal chiller" means air conditioning equipment that utilizes a centrifugal compressor in a vapor-compression refrigeration cycle typically used for commercial comfort air conditioning, but not for cooling for industrial process cooling and refrigeration.

"Class I substance" means any ozone-depleting compound defined in the Clean Air Act, 42 USC § 7671(3).

"Class II substance" means any ozone-depleting compound defined in the Clean Air Act, 42 USC § 7671(4).

"Cold storage warehouse" means a cooled facility designed to store meat, produce, dairy products, and other products delivered to other locations for sale to the ultimate consumer.

"Component" means a part of a refrigeration system, including condensing units, compressors, condensers, evaporators, and receivers, and all of its connections and subassemblies, without which the refrigeration system will not properly function or will be subject to failures.

"Cumulatively replaced" means the addition of or change in multiple components within a three-year period.

"Effective date" means the date after which new or retrofit equipment or products are prohibited, where applicable.

"End-use" means processes or classes of specific applications within industry sectors listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017.

"Flexible polyurethane" means a nonrigid synthetic foam containing polymers created by the reaction of isocyanate and polyol, including that used in furniture, bedding, and chair cushions.

"Foam" means a product with a cellular structure formed via a foaming process in a variety of materials that undergo hardening via a chemical reaction or phase transition.

"Foam blowing agent" means substance that functions as a source of gas to generate bubbles or cells in the mixture during the formation of foam.

"Foam system" means a multipart liquid material that expands when mixed to form a solid or flexible substance in which thin films of material separate pockets of gas.

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"Greenhouse gases" means, for the purposes of this chapter, the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

"Household refrigerators and freezers" means refrigerators, refrigerator-freezers, freezers, and miscellaneous household refrigeration appliances intended for residential use. For the purposes of this chapter, the definition of household refrigerators and freezers does not include household refrigerators and freezers - compact or household refrigerators and freezers - built-in.

"Household refrigerators and freezers - built-in" means refrigerators, refrigerator-freezers, and freezers intended for residential use with 7.75 cubic feet or greater total volume and 24 inches or less depth not including doors, handles, and custom front panels; with sides that are not finished and not designed to be visible after installation; and designed, intended, and marketed exclusively to be installed totally encased by cabinetry or panels that are attached during installation and securely fastened to adjacent cabinetry, walls, or floor and equipped with an integral factory-finished face or to accept a custom front panel.

"Household refrigerators and freezers - compact" means refrigerators, refrigerator-freezers, and freezers intended for residential use with a total refrigerated volume of less than 7.75 cubic feet (220 liters).

"Hydrofluorocarbon" or "HFC" means a class of greenhouse gases that are saturated organic compounds containing hydrogen, fluorine, and carbon.

"Integral skin polyurethane" means a synthetic self-skinning foam containing polyurethane polymers formed by the reaction of an isocyanate and a polyol, including those used in car steering wheels and dashboards.

"Manufacturer" means a person, firm, association, partnership, corporation, governmental entity, organization, or joint venture that produces any product that contains or uses hydrofluorocarbons or is an importer or domestic distributor of such a product.

"Metered dose inhaler" or "MDI" means a device that delivers a measured amount of medication as a mist that a patient can inhale, typically used for bronchodilation to treat symptoms of asthma, chronic obstructive pulmonary disease (COPD), chronic bronchitis, emphysema, and other respiratory illnesses. A MDI consists of a pressurized canister of medication in a case with a mouthpiece.

"Mixture" means a blend of two or more compounds.

"New" means:

1. Products or equipment that are manufactured after June 1, 2021;

2. Products or equipment that are first installed for an intended purpose with new or used components;

3. Products or equipment that are expanded by the addition of components to increase system capacity after June 1, 2021; or

4. Products or equipment replaced or cumulatively replaced such that the cumulative capital cost after June 1, 2021, of replacement exceeds 50% of the capital cost of replacing the whole system.

"Phenolic insulation board" means boards, blocks or other shapes fabricated with phenolic foam.

"Polyolefin" means the foam sheets and tubes made of polyolefin, a macromolecule formed by the polymerization of olefin monomer units.

"Polystyrene extruded boardstock and billet" means a foam formed from predominantly styrene monomer and produced on extruding machines in the form of continuous foam slabs that can be cut and shaped into panels and used for roofing, walls, flooring, and pipes.

"Polystyrene extruded sheet" means polystyrene foam, including that used for packaging, buoyancy or floatation and food-service items such as hinged polystyrene containers (for take-out from restaurants), food trays (meat and poultry) plates, bowls, and retail egg containers.

"Polyurethane" means a polymer formed principally by the reaction of an isocyanate and a polyol, including polyisocyanurate (polyiso).

"Positive displacement chiller" means vapor compression cycle chillers that use positive displacement compressors and are typically used for commercial comfort air conditioning. For the purpose of this chapter, positive displacement chiller does not include cooling for industrial process cooling and refrigeration.

"Refrigerant" or "refrigerant gas" means any substance, including blends and mixtures, that is used for heat transfer purposes.

"Refrigerated food processing and dispensing equipment" means retail food refrigeration equipment that is designed to process and dispense food and beverages that are intended for immediate or near-immediate consumption, including chilled and frozen beverages, ice cream, and whipped cream. This end-use excludes water coolers and units designed solely to cool and dispense water.

"Refrigeration equipment" means any stationary device that is designed to contain and use refrigerant gas to establish or maintain colder than ambient temperatures in a confined space, including retail or commercial refrigeration equipment, household refrigerators and freezers, and cold storage warehouses.

"Remote condensing units" means retail refrigeration equipment or units that have a central condensing portion and may consist of one or more compressors, condensers, and receivers assembled into a single unit, which may be located external to the sales area. The condensing portion and often other parts of the system are located outside the space or area cooled by the evaporator. Remote condensing units are commonly installed in convenience stores, specialty shops (e.g., bakeries, butcher shops), supermarkets, restaurants, and other locations where food is stored, served, or sold.

"Residential use" means use by a private individual of a substance, or a product containing the substance, in or around a permanent or temporary household, during recreation, or for any personal use or enjoyment. Use within a household for commercial or medical applications is not residential use, nor is use in automobiles, watercraft, or aircraft.

"Retail food refrigeration" or "commercial refrigeration" means equipment designed to store and display chilled or frozen goods for commercial sale, including stand-alone units, refrigerated food processing and dispensing equipment, remote condensing units, supermarket systems, and vending machines.

"Retrofit" means the replacement of the refrigerant used in refrigeration equipment with a different refrigerant and any related changes to the refrigeration equipment required to maintain its operation and reliability following refrigerant replacement.

"Rigid polyurethane and polyisocyanurate laminated boardstock" means laminated board insulation made with polyurethane or polyisocyanurate foam, including that used for roofing and walls but not including rigid polyurethane appliance foam, rigid polyurethane commercial refrigeration and sandwich panels, rigid polyurethane marine flotation foam, rigid polyurethane spray foam, and rigid polyurethane one-component foam sealants.

"Rigid polyurethane appliance foam" means polyurethane insulation foam in household appliances.

"Rigid polyurethane commercial refrigeration and sandwich panels" means polyurethane foam used to provide insulation in walls and doors, including that used for commercial refrigeration equipment, and used in doors, including garage doors.

"Rigid polyurethane high-pressure two-component spray foam" means a liquid polyurethane foam system sold as two parts (i.e., A-side and B-side) in nonpressurized containers that is field or factory applied in situ using high-pressure proportioning pumps at 800 to 1,600 pounds per square inch (psi) and an application gun to mix and dispense the chemical components.

"Rigid polyurethane low-pressure two-component spray foam" means a liquid polyurethane foam system sold as two parts (i.e., A-side and B-side) in containers that are pressurized to less than 250 psi during manufacture of the system for application without pumps and are typically applied in situ relying upon a liquid blowing agent or gaseous foam blowing agent that also serves as a propellant.

"Rigid polyurethane marine flotation foam" means buoyancy or flotation polyurethane foam used in boat and ship manufacturing for both structural and flotation purposes.

"Rigid polyurethane one-component foam" means a polyurethane foam generally packaged in aerosol cans that is applied in situ using a gaseous foam blowing agent that is also the propellant for the aerosol formulation.

"Rigid polyurethane slabstock and other" means a rigid closed-cell polyurethane foam formed into slabstock insulation for panels and fabricated shapes for pipes and vessels.

"Stand-alone low-temperature unit" means a stand-alone unit that maintains food or beverages at temperatures at or below 32°F (0°C).

"Stand-alone medium-temperature unit" means a stand-alone unit that maintains food or beverages at temperatures above 32°F (0°C).

"Stand-alone unit" means retail refrigerators, freezers, and reach-in coolers (either open or with doors) where all refrigeration components are integrated and the refrigeration circuit may be entirely brazed or welded. These systems are charged with refrigerant at the factory and typically require only an electricity supply to begin operation.

"Substance" means any chemical, product substitute, or alternative manufacturing process, whether new or retrofit, intended for use in the end-uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017.

"Substitute" means a chemical, product replacement, or alternative manufacturing process, whether new or retrofit, that is used to perform a function previously performed by a class I substance or class II substance.

"Supermarket systems" means multiplex or centralized retail food refrigeration equipment systems designed to cool or refrigerate, which typically operate with racks of compressors installed in a machinery room and which includes both direct and indirect systems.

"Use" means any utilization of any substance, including utilization in a manufacturing process or product in the Commonwealth of Virginia, consumption by the end-user in the Commonwealth, or in intermediate applications in the Commonwealth, such as formulation or packaging for other

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subsequent applications. For the purposes of this chapter, use excludes residential use, but it does not exclude manufacturing for the purpose of residential use.

"Vending machine" means a self-contained unit that dispenses goods that must be kept cold or frozen.

9VAC5-145-120. Compliance.

A. Unless otherwise specified in this chapter, no owner or other person shall engage in or permit the manufacture, sale, lease, rental, installation, or entry into commerce in Virginia of any equipment or product in violation of prohibitions prescribed under this chapter after the effective date of the prohibition.

B. The effective date of the prohibitions in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, shall be January 1, 2022, unless a later effective date is specified in those appendices or in 9VAC5-145-130.

C. Nothing in this chapter shall preclude the department's use of any credible evidence or information in determining whether a person is in compliance with the applicable requirements.

9VAC5-145-130. Special provisions applicable to extruded polystyrene boardstock and billet manufacturers.

A. Extruded polystyrene boardstock and billet manufacturers located in the Commonwealth of Virginia that manufacture on and after January 1, 2022, in accordance with 9VAC5-145-100 D using hydrofluorocarbons prohibited in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, shall comply with the following requirements:

1. Submit a compliance date feasibility study to the department no later than January 1, 2022, that contains a compliance schedule for meeting the prohibition on the use of hydrofluorocarbons prohibited in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, in the manufacturing process for extruded polystyrene boardstock and billet.

2. The compliance date feasibility study shall be prepared in a manner acceptable to the department.

3. The compliance date feasibility study may contain a mitigation action plan for reducing HFC emissions in the Commonwealth of Virginia from January 1, 2022, until the prohibition compliance date recommended in the compliance date feasibility study required in subdivision 1 of this subsection. The mitigation action plan may detail and describe HFC mitigation efforts whether planned or implemented at the manufacturing facility, including dates of completion for any planned efforts.

B. Notwithstanding the requirements of subsection A of this section, extruded polystyrene boardstock and billet manufacturers located in the Commonwealth of Virginia shall

be prohibited from using hydrofluorocarbons prohibited in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, in the manufacturing process for extruded polystyrene boardstock and billet on and after January 1, 2036.

9VAC5-145-140. Labeling and administrative requirements.

A. As of January 1, 2022, except for acceptable uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, any person that manufactures for sale or entry into commerce in the Commonwealth of Virginia, products or equipment in the air-conditioning, refrigeration, foam, or aerosol propellant end-uses listed in those appendices, shall provide a written disclosure to the buyer.

1. For motor-bearing refrigeration and air-conditioning equipment that is neither factory-charged nor pre-charged with refrigerant, the required disclosure or label shall state: "This equipment is prohibited from using any substance on the 'List of Prohibited Substances' for that specific end-use, in accordance with state regulations for hydrofluorocarbons."

2. Except for products and equipment with existing labeling required by state building codes and safety standards that contain the information required in subdivisions 2 a and 2 b of this subsection, for refrigeration and air-conditioning equipment that are factory-charged or pre-charged with a hydrofluorocarbon or hydrofluorocarbon blend the required disclosure or label shall include:

a. The date of manufacture; and

b. The refrigerant and foam blowing agent that the product or equipment contains.

3. For foam products, the disclosure or label shall include one of the following alternatives:

a. The date of manufacture and either:

(1) Identification of the foam blowing agent that the product contains; or

(2) A reference to a Safety Data Sheet (complying with 29 CFR 1910.1200 requirements), provided that the Safety Data Sheet identifies the foam blowing agent the product contains; or

b. The statement "Where sold, compliant with state HFC regulations."

4. For aerosol propellants, the disclosure or label shall include one of the following alternatives:

a. The date of manufacture and either:

(1) Identification of the aerosol propellant that the product contains; or

(2) A reference to a Safety Data Sheet (complying with 29 CFR 1910.1200 requirements), provided that the Safety

Data Sheet identifies the propellant that the product contains; or

b. The statement "Where sold, compliant with state HFC regulations."

B. If not combined with a written disclosure statement required by another jurisdiction, the written disclosure shall include the following statement signed by an authorized representative of the manufacturer: "I certify under penalty of law that the statements and information submitted in this document are to the best of my knowledge and belief true, accurate, and complete."

C. The manufacturer may substitute a date code representing the date of manufacture for the date of manufacture required in subsection A of this section.

9VAC5-145-150. Records and reporting.

A. As of January 1, 2022, any person that manufactures any product or equipment for the applications and end-uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, for sale, lease, rental, installation, or entry into commerce in the Commonwealth of Virginia shall keep and maintain for five years records of the following information:

1. The date of manufacture of the equipment or product;
2. The refrigerant, aerosol propellant, and foam blowing agent blend that the equipment or product is designed to use;
3. The refrigerant, aerosol propellant, and foam blowing agent in the equipment or product; and
4. Information sufficient to demonstrate that the product or equipment does not contain any substances prohibited or restricted for the applications and end-uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, or that the product is exempt in accordance with 9VAC5-145-110.

B. As of January 1, 2022, any person who manufactures any product or equipment for the applications and end-uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, for sale, lease, rental, installation, or entry into commerce in the Commonwealth of Virginia shall make the required records available to the department upon request.

C. If a manufacturer uses a date code to meet disclosure or labeling requirements in 9VAC5-145-140 A, the manufacturer shall provide an explanation of the date code to the department upon request.

DOCUMENTS INCORPORATED BY REFERENCE
(9VAC5-145)

[40 CFR Part 82 Subpart G Appendix U effective on January 3, 2017](#)

[40 CFR Part 82 Subpart G Appendix V effective on January 3, 2017](#)

VA.R. Doc. No. R21-6745; Filed May 3, 2021, 7:34 a.m.

STATE WATER CONTROL BOARD

Final Regulation

REGISTRAR'S NOTICE: The following regulatory action is exempt from Article 2 of the Administrative Process Act in accordance with § 2.2-4006 A 4 c of the Code of Virginia, which excludes regulations that are necessary to meet the requirements of federal law or regulations, provided such regulations do not differ materially from those required by federal law or regulation. The State Water Control Board will receive, consider, and respond to petitions by any interested person at any time with respect to reconsideration or revision.

Title of Regulation: **9VAC25-71. Regulations Governing the Discharge of Sewage and Other Wastes from Boats (amending 9VAC25-71-70).**

Statutory Authority: § 62.1-44 of the Code of Virginia; 33 USC § 1322.

Effective Date: June 23, 2021.

Agency Contact: Justin L. Williams, Department of Environmental Quality, 1111 East Main Street, Suite 1400, P.O. Box 1105, Richmond, VA 23218, telephone (804) 698-4185, FAX (804) 698-4178, or email justin.williams@deq.virginia.gov.

Summary:

The amendments add two newly designated boating No Discharge Zones (NDZ) in Gloucester County to conform to the U.S. Environmental Protection Agency's federal designation of those areas as No Discharge Zones. The NDZs were developed in accordance with § 312 of the federal Clean Water Act and § 62.1-44.33 of the Code of Virginia.

9VAC25-71-70. Listing of designated no discharge zones in the Commonwealth of Virginia.

The following are designated no discharge zones:

1. Smith Mountain Lake in the counties of Bedford, Franklin and Pittsylvania, Virginia, from Smith Mountain Dam (Gap of Smith Mountain) upstream to the 795.0 foot contour (normal pool elevation) in all tributaries, including waters to above the confluence with Back Creek in the Roanoke River arm, and to the Brooks Mill Bridge (Route 834) on the Blackwater River arm.
2. The Lynnhaven River Watershed in the City of Virginia Beach, Virginia, including all contiguous waters south of the Lesner Bridge at Lynnhaven Inlet (latitude 36°54'27.90" N and longitude 76°05'30.90" W) and north of the watershed break point at the intersection of West Neck Creek and Dam

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Neck Road (latitude 36°47'17.60" N and longitude 76°04'14.62" W).

3. Broad Creek, Jackson Creek, and Fishing Bay Watersheds in lower Middlesex County, Virginia: the Broad Creek Watershed No Discharge Zone is defined as all contiguous waters south of the line formed between the points formed by latitude 37°33'46.3" N and longitude -76°18'45.9" W and north to latitude 37°33'47.4" N and longitude -76°19'24.7" W. The Jackson Creek Watershed No Discharge Zone is defined as all contiguous waters west of the of the line formed between the points formed by latitude 37°32'40" N and longitude -76°19'40.6" W at Stove Point Neck and latitude 37°32'46.8" N and longitude -76°19'15.6" W at the western point of the entrance to the eastern prong of Jackson Creek. The Fishing Bay Watershed No Discharge Zone is defined as all contiguous waters north of the line formed between the points formed by latitude 37°32'01.9" N and longitude -76°21'43.5" W at the southernmost tip of Bland Point and latitude 37°31'29.4" N and longitude -76°19'53.6" W at the southernmost tip of Stove Point. This area includes all of Fishing Bay and encompasses Moore Creek and Porpoise Cove.

4. Sarah Creek in Gloucester County, Virginia, including all contiguous waters north of the line formed between the point formed by latitude 37°14'58.34" N and longitude 76°29'39.17" W and east to latitude 37°15'00.81" N and longitude 76°28'37.84" W.

5. Perrin River in Gloucester County, Virginia, including all contiguous waters north of the line formed between the point

formed by latitude 37° 15'43.52" N and longitude 76°25'25.71" W and east to latitude 37°15'50.63" N and longitude 76°25'11.84" W.

VA.R. Doc. No. R21-6759; Filed April 28, 2021, 9:14 a.m.

Final Regulation

REGISTRAR'S NOTICE: The State Water Control Board is claiming an exemption from the Administrative Process Act in accordance with § 2.2-4006 A 3 of the Code of Virginia, which excludes regulations that consist only of changes in style or form or corrections of technical errors. The State Water Control Board will receive, consider, and respond to petitions by any interested person at any time with respect to reconsideration or revision.

Title of Regulation: 9VAC25-720. Water Quality Management Planning Regulation (amending 9VAC25-720-60).

Statutory Authority: § 62.1-44.15 of the Code of Virginia; 33 USC § 1313(e) of the Clean Water Act.

Effective Date: June 23, 2021.

Agency Contact: Valerie Rourke, Department of Environmental Quality, 1111 East Main Street, Suite 1400 P.O. Box 1105, Richmond, VA 23218, telephone (804) 698-4158, FAX (804) 698-4178, or email valerie.rourke@deq.virginia.gov.

Summary:

The amendment corrects an erroneous permit number for a discharger.

9VAC25-720-60. James River Basin.

EDITOR'S NOTE: Subsection A, Tables B1 through B4, and Tables B6 and B7 of 9VAC25-720-60 are not amended; therefore, that text is not set out.

B. Stream segment classifications, effluent limitations including water quality based effluent limitations, and wasteload allocations.

TABLE B5 - UPPER JAMES-JACKSON RIVER SUBAREA WASTELOAD ALLOCATIONS BASED ON EXISTING DISCHARGE POINT¹

MAP LOCATION	STREAM NAME	SEGMENT NUMBER	SEGMENT CLASSIFICATION STANDARDS	MILE to ² MILE	DISCHARGER	VPDES PERMIT NUMBER	VPDES PERMIT LIMITS BOD ₅ kg/day	303(e) ³ WASTELOAD ALLOCATION BOD ₅ kg/day
1	Jackson River	2-1	E.L.	93.05-	Virginia Trout	VA0071722	N/A	Secondary
B	Warm Springs Run	2-1	E.L.	3.62-0.00	Warm Springs STP	VA0028233	9.10	Secondary
3	Back Creek	2-1	W.Q.	16.06-8.46	VEPCO	VA0053317	11.50	11.50

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C	X-trib to Jackson River	2-1	E.L.	0.40-0.0	Bacova	VA0024091	9.10	Secondary
D	Hot Springs Run	2-1	E.L.	5.30-0.00	Hot Springs Reg. STP	VA0066303	51.10	Secondary
E	X-trib to Cascades Creek	2-1	E.L.	3.00-0.00	Ashwood-Healing Springs STP	VA0023726	11.30	Secondary
F	Jackson River	2-1	E.L.	50.36-	U.S. Forest Service Bolar Mountain	VA0032123	1.98	Secondary
G	Jackson River	2-1	E.L.	43.55	U.S. Army COE Morris Hill Complex	VA0032115	1.70	Secondary
H	Jackson River	2-1	E.L.	29.84-	Alleghany County Clearwater Park	VA0027955	5.70	Secondary
4	Jackson River	2-1	E.L.	25.99	Covington City Water Treatment Plant	VA0058491	N/A	Secondary
5	Jackson River	2-2	W.Q.	24.64-19.03	Westvaco	VA0003646	4,195.00	4,195.00 ⁴
6					Covington City ⁵ Asphalt Plant	VA0054411	N/A	N/A
7					Hercules, Inc ⁶	VA0003450	94.00	94.00
J	Jackson River	2-2	W.Q.	19.03-10.5	Covington STP	VA0025542	341.00	341.00
K	Jackson River			10.5-0.0	Low Moor STP ⁷	VA0027979	22.70	22.70
M					D.S. Lancaster CC ⁸	VA0028509	3.60	3.60
L					Selma STP ⁹	VA0028002	59.00	59.00
10					The Chessie System ¹⁰	VA0003344	N/A	N/A
N					Clifton Forge STP ¹¹	VA0002984	227.00	227.00
11					Lydall ¹²	VA0002984	6.00	6.00
P					Iron Gate STP ¹³	VA0020541	60.00	60.00
8	Paint Bank Branch	2-2	E.L.	1.52	VDGIF Paint Bank Hatchery	VA0098432	N/A	Secondary
I	Jerrys Run	2-2	E.L.	6.72-	VDOT 1-64 Rest Area	VA0023159	0.54	Secondary

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AA	East Branch (Sulfer Spring)	2-2	E.L.	2.16	Norman F. Nicholas	VA0078403	0.05	Secondary
BB	East Branch (Sulfer Spring)	2-2	E.L.	1.91-	Daryl C. Clark	VA0067890	0.068	Secondary
9	Smith Creek	2-2	E.L.	3.44-	Clifton Forge Water Treatment Plant	VA0006076	N/A	Secondary
O	Wilson Creek	2-2	E.L.	0.20-0.0	Cliffondale ¹⁴ Park STP	VA0027987	24.00	Secondary
2	Pheasanty Run	2-3	E.L.	0.01-	Coursey Springs	VA0006491	434.90	Secondary
Q	Grannys Creek	2-3	E.L.	1.20-	Craig Spring Conference Grounds	VA0027952	3.40	Secondary
CC	X-trib to Big Creek	2-3	E.L.	1.10-	Homer Kelly Residence	VA0074926	0.05	Secondary
12	Mill Creek	2-3	E.L.	0.16-	Columbia Gas Transmission Corp.	VA0004839	N/A	Secondary
R	John Creek	2-3	E.L.	0.20-	New Castle STP (old)	VA0024139	21.00	Secondary
S	Craig Creek	2-3	E.L.	48.45-36.0	New Castle STP (new)	VA0064599	19.90	Secondary
T	Craig Creek	2-3	E.L.	46.98-	Craig County Schools McCleary E.S.	VA0027758	0.57	Secondary
DD	Eagle Rock Creek	2-3	E.L.	0.08-	Eagle Rock STP ¹⁵ (Proposed)	VA0076350	2.30	Secondary
U	X-trib to Catawba Creek	2-3	E.L.	0.16	VDBHDS Catawba Hospital	VA0029475	13.60	Secondary
14	Catawba Creek	2-3	E.L.	23.84	Tarmac-Lonestar	VA0078393	0.80	Secondary
FF	Borden Creek	2-3	E.L.	2.00-	Shenandoah Baptist Church Camp	VA0075451	0.88	Secondary
EE	X-trib to Borden Creek	2-3	E.L.	0.36	David B. Pope	VA0076031	0.07	Secondary

V	X-trib to Catawba Creek	2-3	E.L.	3.21-	U.S. FHA Flatwood Acres	VA0068233	0.03	Secondary
W	Catawba Creek	2-3	E.L.	11.54-	Fincastle STP	VA0068233 VA0060364	8.50	Secondary
X	Looney Mill Creek	2-3	E.L.	1.83-	VDOT I-81 Rest Area	VA0023141	0.91	Secondary
Y	X-trib to Stoney	2-3	E.L.	0.57	VDOC Field Unit No. 25 Battle Creek	VA0023523	1.10	Secondary
Z	James River	2-3	E.L.	308.5-286.0	Buchanan STP	VA0022225	27.00	Secondary

Notes:

N/A Currently No BOD₅ limits or wasteload have been imposed by the VPDES permit. Should BOD₅ limits (wasteload) be imposed a WQMP amendment would be required for water quality limited segments only.

¹Secondary treatment levels are required in effluent limiting (E.L.) segments. In water quality limiting (W.Q.) segments quantities listed represent wasteload allocations.

²Ending river miles have not been determined for some effluent limited segments.

³These allocations represent current and original (1977 WQMP) modeling. Future revisions may be necessary based on Virginia State Water Control Board modeling.

⁴The total assimilative capacity at critical stream flow for this portion of Segment 2-2 has been modeled and verified by Hydrosience, Inc. (March 1977) to be 4,914 kg/day BOD₅.

⁵The discharge is to an unnamed tributary to the Jackson River at Jackson River mile 22.93.

⁶The discharge is at Jackson River mile 19.22.

⁷The discharge is to the mouth of Karnes Creek, a tributary to the Jackson River at Jackson River mile 5.44.

⁸The discharge is at Jackson River mile 6.67.

⁹The discharge is at Jackson River mile 5.14.

¹⁰The discharge is at Jackson River mile 4.72.

¹¹The discharge is at Jackson River mile 3.46.

¹²The discharge is at Jackson River mile 1.17.

¹³The discharge is at Jackson River mile 0.76.

¹⁴The discharge is to the mouth of Wilson Creek, a tributary to the Jackson River at Jackson River mile 2.44.

¹⁵The discharge is to the mouth of Eagle Rock Creek, a tributary to the Jackson River at Jackson River mile 330.35.

EDITOR'S NOTE: Subsection C of 9VAC25-720-60 is not amended; therefore, the text of that subsection is not set out.

VA.R. Doc. No. R21-6760; Filed April 28, 2021, 9:19 a.m.

TITLE 12. HEALTH

STATE BOARD OF HEALTH

Proposed Regulation

Title of Regulation: 12VAC5-403. Certification of Doulas (adding 12VAC5-403-10 through 12VAC5-403-70).

Statutory Authority: §§ 32.1-12 and 32.1-77.1 of the Code of Virginia.

Public Hearing Information: No public hearing is currently scheduled.

Public Comment Deadline: July 23, 2021.

Agency Contact: Robin Buskey, Policy Analyst, Office of Family Health Services, Virginia Department of Health, 109 Governor Street, Richmond, VA 23219, telephone (804) 863-7253, or email robin.buskey@vdh.virginia.gov.

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Basis: The State Board of Health is authorized to make, adopt, promulgate, and enforce regulations by § 32.1-12 of the Code of Virginia. Section 32.1-77.1 of the Code of Virginia requires the board to adopt regulations that set forth the requirements for the use of the title "state-certified doula" and the training and education necessary to satisfy the requirements for certification by the department as a state-certified doula.

Purpose: The purpose of this regulation is compliance with the Code of Virginia and to provide standardized doula certification requirements in the Commonwealth of Virginia. Certification requirements for state-certified doulas shall reflect national best practices pertaining to community-based doula training and certification. Individuals practicing as state-certified doulas will have attained the required training, through entities approved by the State Board of Health, to provide coaching, outreach, and navigation services to Virginia's most hard-to-reach pregnant women to ensure that disadvantaged populations are equipped with the knowledge to receive the most appropriate medical and social supports to meet their needs. A standardized doula certification model is also beneficial to supporting and maintaining the doula workforce. This regulatory action will ensure that the content is clearly written.

Substance: This new regulation will include definitions for community-based and state-certified doulas as well as other relevant terminology. The regulation will outline the minimum training and education requirements for state-certified doulas based on the core competences for doula certification used by national organizations and community based organizations in Virginia. In addition, the regulation will describe the minimum standards required of the entity approved by the board that is to be responsible for confirming state-certified doulas, approving the training and education to meet doula certification requirements, and maintaining a registry of state-certified doulas available to the general public.

Issues: The primary advantage of the proposed regulatory action to the public is the establishment of statewide doula certification requirements and a public registry. Currently, anyone can identify as a certified doula because the Commonwealth of Virginia has no central repository or public registry that identifies certified doulas or that collects data on the number of doulas practicing in the state. Establishing minimum training and education criteria for state certification of doulas based on national standards and best practices will provide assurance to the public that state-certified doulas have met those requirements. A certifying body, which will be approved by the State Board of Health, will verify that doulas practicing in the Commonwealth have completed the required training to attain certification and provide doula care to pregnant women. Health care providers, community-based organizations, and payers may be assured of standardized training requirements when vetting this critical workforce. The public registry will include all doulas certified in Virginia and will make identification of state-certified doulas easier and more accessible to the public. One disadvantage associated

with this regulatory action to the public is the potential costs to applicants seeking to become a state-certified doula as they will likely incur an application fee. Another potential issue regarding standardizing doula certification requirements is that the regulation may present a perceived barrier to doulas who are currently practicing without certification. This regulation will be written to ensure that these individuals are not prohibited from continuing to practice.

A primary advantage of the proposed regulatory action to the Commonwealth is that the action supports development of the doula workforce, the need for which aligns with research supporting the benefits of emotional support provided by support personnel, such as doulas, on labor outcomes. The March of Dimes July 2018 position statement, "Statement on Doulas and Birth Outcomes," outlines evidence and guidance in support of doula care. Specifically, the March of Dimes supports increased access to doula care as one tool to help improve birth outcomes and reduce the higher rates of maternal morbidity and mortality among women of color in the United States; advocates for all payers to provide coverage for doula services; and recognizes the importance of increased training, support, and capacity development for doulas, including doulas from racially, ethnically, socioeconomically, and culturally diverse communities. There are no other known disadvantages to the public associated with this regulatory change.

Department of Planning and Budget's Economic Impact Analysis:

Summary of the Proposed Amendments to Regulation. Pursuant to Chapter 724 of the 2020 Acts of Assembly, the State Board of Health (Board) seeks to promulgate a new regulation to establish the certification process and related standards for "state-certified doulas." Doulas are "nonmedical professionals who provide critical physical, emotional, and informational support to pregnant women during pregnancy, delivery, and the postpartum period."¹ The proposed regulation aims to establish the minimum requirements to be considered a "state-certified doula" in Virginia, which are based on standards used by national organizations as well as community-based organizations in Virginia. The proposed new regulation also outlines the minimum standards required of the Board-approved entity that would be responsible for confirming state-certified doulas, approving the training and education to meet doula certification requirements, and maintaining a registry of state-certified doulas available to the general public.

Background. Based on data collected between 2004 and 2013, the Virginia Department of Health (VDH) reports that the maternal mortality rate for African-American women is over two times as high as white women.² This finding has led to increased efforts among policymakers to combat the racial and ethnic disparities in maternal mortality rates in the state.³ These efforts are backed by a growing body of medical research spanning the last three decades, which has informed advocacy

efforts by organizations like the March of Dimes.⁴ For example, a 1991 randomized controlled trial found that continuous emotional support during labor significantly reduced the rate of caesarean section deliveries and forceps deliveries. The authors found similar patterns for duration of labor, prolonged infant hospitalization, and maternal fever and concluded by calling for a review of current obstetrics practices.⁵ More recent research has explored a wider range of pregnancy and birth outcomes,⁶ focused on racial/ethnic disparities in obstetric outcomes,⁷ and specifically analyzed the effects of continuous labor support specifically among Medicaid recipients,⁸ as well as the cost-effectiveness of doing so.⁹

Pursuant to these research findings and public advocacy efforts, Chapter 724 of the 2020 Acts of Assembly sought to formalize the doula workforce in Virginia by directing the Board to implement a certification process and develop a registry of state-certified doulas. Specifically, Chapter 724 added a new section, § 32.1-77.1. State-certified doulas; certification to the Code of Virginia (Code) in which a "state-certified doula" was defined as "a trained, community-based nonmedical professional who provides continuous physical, emotional, and informational support to a pregnant person during the antepartum or intrapartum period or during the period up to one year postpartum and who has been certified by a body approved by the Board for such purpose in accordance with the provisions of this section."

The Code directs the Board to set forth (i) the requirements for the use of the title of "state-certified doula," and (ii) the training and education necessary to satisfy these requirements. The Code also authorizes the Board to approve a certifying body that would (i) certify doulas in accordance with the Board's requirements, and (ii) approve entities to provide the required training and education. The Code also specifies that "a person who is certified by a national credentialing organization that is approved by the body approved by the Board [the certifying body] for such purpose," but who did not receive training or education from an entity approved by the body, shall be eligible for state certification.

In addition, the Code also requires VDH to create and maintain a publicly-accessible registry of state-certified doulas, as well as a list of entities that have been approved by the certifying body to provide training and education to doulas. Lastly, the Code does not prohibit doulas who are not state-certified from practicing in Virginia; they would only be prohibited from using the title "state-certified doula" and would not be included in VDH's registry.

The content of the regulation as proposed largely conforms to the stipulations put forth in the Code. Sections of the proposed regulation are summarized:

- Section 10 (Definitions) defines "state-certified doula" identical to the Code and adds definitions for terms contained in that definition, including "doula" and "community-based doula," "antepartum," "intrapartum,"

and "postpartum," "certifying body" and "training entity."

- Section 20 (State-certified Doula) specifies that any person seeking to be a state-certified doula under this chapter shall be a community-based doula and meet the educational qualifications and hold a certification from the certifying body.

- Section 30 (Qualifications) specifies that persons seeking to be a state-certified doula shall complete 60 hours of training provided by one or more entities approved by the certifying body, unless that person had already obtained an initial level of certification within three years prior to this regulation going into effect. In that case, the individual would have to submit evidence of completed coursework and certification to the certifying body and provide proof of completion of any unmet training requirements within one year of application.

- Section 40 (Minimum standards for certifying bodies) lays out the criteria for the selection of a certifying body,¹⁰ the duties of the certifying body (including maintaining the registry and submitting an annual report to the Board) and the requirements to be enforced by the certifying body (namely, that certificate holders adhere to a code of ethics and complete 60 hours of training.)

- Section 50 (Curriculum requirements) reiterates that persons seeking to be a state-certified doula shall complete a doula training and education program that has been approved by the certifying body, and that the certifying body shall approve the minimum requirements laid out by the Board.¹¹ The minimum curriculum requirements are included in a separate document incorporated by reference (DIBR).¹²

- Section 60 requires all state-certified doulas to undergo a minimum of 15 hours of continuing education every two years from the date of certification, in areas outlined in the curriculum presented in the DIBR.

- Section 70 mirrors the Code in reiterating that this regulation does not require a doula to be certified by a certifying body approved by the Board in order to practice as a doula in Virginia.

VDH has indicated that the Department of Medical Assistance Services (DMAS) is conducting a rate study for potential Medicaid reimbursement of doula services. If the General Assembly authorizes DMAS to cover doula services for Medicaid recipients, individuals will need to satisfy doula state-certification requirements in order to receive Medicaid reimbursement. Therefore, the proposed regulation would pave the way for community-based doulas, many of whom already work in low-income and minority communities, to be compensated through Virginia's Medicaid program and

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potentially serve more individuals in those communities at lower direct cost to them.

Estimated Benefits and Costs. Individuals seeking doula services, health care providers, community-based organizations, and payers would benefit from the state certification process laid out in the proposed regulation by being assured of standardized training requirements when making hiring decisions or insurance reimbursement eligibility decisions. The public registry would include all doulas certified in Virginia, making it easier to not only find a community-based doula but also verify a doula's state certification.

Currently, the registry would benefit individuals who could afford to pay for doula services out-of-pocket or health care providers (including birthing centers) that are specifically looking for doulas who have met the particular training requirements laid out in the proposed regulation. However, if doula services become Medicaid-eligible, and subsequently, if other insurance payers sought to cover doula services, the registry would benefit individuals from a broader range of socio-economic backgrounds, including some of the more vulnerable and at-risk populations.

Costs created by the proposed amendment would primarily fall on individuals seeking to become state-certified doulas. In addition to paying for the 60 hours of mandated training, VDH indicates that applicants for certification would have to pay a fee of \$100.¹³ Hospitals already seem to require doulas to present some form of certification in order to be allowed to accompany their clients. Although there are no standardized requirements for doula training or certification, there are nationally recognized organizations that offer both, and some doulas have likely obtained a certification already.¹⁴ VDH clarified that doulas who have already obtained a certification could use it toward meeting the training requirements in the proposed regulation if it had been obtained within the preceding three years, thereby reducing their cost of becoming state-certified.¹⁵

To ensure that state certification is financially accessible to community-based doulas, especially those belonging to low-income and minority communities, the certifying body would need to account for the cost of training in their selection of training entities. The Board could mitigate these costs by requiring the certifying body to selectively approve training entities that offer need-based financial aid, work with community organizations to offer scholarships, or generally keep the training costs low so that it is not a significant barrier to certification for community-based doulas. However, unless the General Assembly approves Medicaid-coverage for state-certified doulas, (or private insurers voluntarily decide to cover it,) it is unclear if community-based doulas would have sufficient incentive to incur the costs of training and state certification.¹⁶

Businesses and Other Entities Affected. As mentioned previously, community-based doulas would be primarily

affected by the opportunity to become state-certified and be included in a registry, particularly if that also enables them to receive Medicaid reimbursement in the future. Since there is no central doula registry at present, the number of community-based doulas working in Virginia is unknown. In addition, the proposed regulation also affects individuals and health care providers seeking to hire doulas, as well as payers who may consider covering doula services in the future, by standardizing training requirements and creating a registry of state-certified doulas.

Small Businesses¹⁷ Affected. Most doulas (community-based or otherwise) likely work as independent contractors, but there is currently no data on the number of doulas practicing in Virginia, whether they are community-based, or if they are affiliated with specific health care providers. However, the proposed regulation only affects doulas seeking to become state certified, and certification is not necessary to continue to provide doula services.

Localities¹⁸ Affected.¹⁹ The proposed amendments do not introduce new costs for local governments and are unlikely to affect any locality in particular.

Projected Impact on Employment. The proposed regulation would create "state-certified doulas" as a category of nonmedical health care workers, with standardized training requirements and tiered oversight by the Board and the certifying body. Thus, the proposed regulation could lead to increased employment of state-certified doulas by individuals, health care providers, especially private practices specializing in obstetrics and gynecology, as well as birth centers. This would be more likely if doula services were covered by Medicaid or private payers as a result of the proposed regulation. Although the number of state-certified doulas who are employed cannot be predicted at this time, the certifying body could collect such data once it starts issuing certifications.

Effects on the Use and Value of Private Property. The proposed regulation is unlikely to affect the use and value of private property. Real estate development costs are not affected.

¹Agency Background Document (page 1)
[https://townhall.virginia.gov/L/GetFile.cfm?File=58\5574\9209\AgencyState ment_VDH_9209_v1.pdf](https://townhall.virginia.gov/L/GetFile.cfm?File=58\5574\9209\AgencyState%20ment_VDH_9209_v1.pdf)

²See
https://www.vdh.virginia.gov/content/uploads/sites/18/2016/04/PAMSS-Ten-Year-Trends-Report-2004-2013_final.pdf

³See <https://www.governor.virginia.gov/newsroom/all-releases/2019/june/headline-840941-en.html>

⁴The March of Dimes' July 2018 position statement, Statement on Doulas and Birth Outcomes, outlines evidence and guidance in support of doula care. Specifically, See [https://www.marchofdimes.org/materials/Doulas and birth outcomes position statement final January 30 PM.pdf](https://www.marchofdimes.org/materials/Doulas%20and%20birth%20outcomes%20position%20statement%20final%20January%2030%20PM.pdf)

⁵Kennell J, Klaus M, McGrath S, Robertson S, Hinkley C. Continuous emotional support during labor in a US hospital. A randomized controlled trial. JAMA 1991 May 1;265(17):2197-201. <https://pubmed.ncbi.nlm.nih.gov/2013951/>.

⁶Bohren MA, Hofmeyr GJ, Sakala C, Fukuzawa RK, Cuthbert A. Continuous support for women during childbirth. *Cochrane Database Syst Rev.* 2017 Jul 6;7(7):CD003766. <https://pubmed.ncbi.nlm.nih.gov/28681500/>

⁷Bryant AS, Worjloh A, Caughey AB, Washington AE. Racial/ethnic disparities in obstetric outcomes and care: prevalence and determinants. *Am J Obstet Gynecol.* 2010 Apr;202(4):335-43. <https://pubmed.ncbi.nlm.nih.gov/20060513/>.

⁸Kozhimannil KB, Hardeman RR, Attanasio LB, Blauer-Peterson C, O'Brien M. Doula care, birth outcomes, and costs among Medicaid beneficiaries. *Am J Public Health.* 2013 Apr;103(4):e113-21. <https://pubmed.ncbi.nlm.nih.gov/23409910/>.

⁹Kozhimannil KB, Hardeman RR, Alarid-Escudero F, Vogelsang CA, Blauer-Peterson C, Howell EA. Modeling the Cost-Effectiveness of Doula Care Associated with Reductions in Preterm Birth and Cesarean Delivery. *Birth.* 2016 Mar;43(1):20-7. <https://pubmed.ncbi.nlm.nih.gov/26762249/>.

¹⁰Specifically, the proposed regulation states that "The Board of Health shall approve a certifying body that has adopted standards from a nationally recognized organization that has a doula certification that reflects national best practices pertaining to community-based doula training and certification to establish certified doula training and education programs and to approve or accept continuing education courses for renewing doula certification in Virginia." When asked for clarification by the Department of Planning and Budget (DPB), VDH stated that "the Virginia Certification Board will be recommended to the Board of Health as the certifying entity, but that recommendation will not be made until after the regulation has taken effect."

¹¹VDH communicated to DPB that "The Virginia Certification Board, if approved by the Board of Health, will use the minimum curriculum requirements proposed by the Board."

¹²A link to the minimum requirements can be found at <https://townhall.virginia.gov/L/ViewXML.cfm?textid=14908>. When asked why these requirements were included in a DIBR, VDH reported that, "it is unlikely that changes to the actual regulatory text will be sought once the regulation is approved and in effect. However, curriculum topics will likely change based on updates to national best practices pertaining to doula training. When those changes occur, amendments to the DIBR will be submitted for review and approval as a regulatory action."

¹³See page 5: https://townhall.virginia.gov/l/GetFile.cfm?File=58\5574\9209\AgencyStatement_VDH_9209_v1.pdf. Although the fee is not mentioned in the Code or in the proposed text, VDH clarified that "the Virginia Certification Board, if approved by the Board of Health to be the certifying entity, will assess and collect a \$100 application fee."

¹⁴See for example DONA International, the International Childbirth Education Association, Childbirth and Postpartum Professional Association, and BirthWorks. They all offer training and certification and maintain directories of their own members.

¹⁵Specifically, VDH reported that, Doulas who have already obtained a certification through an organization such as DONA would provide documentation of having completed a certification within three years and the minimum community-based doula training requirements. The certifying body will accept documentation of certification obtained through DONA, ICEA, CAPPA, BirthWorks, etc. The minimum community-based doula training requirements (see DIBR) are not automatically satisfied with a certification obtained through a doula certifying organization; therefore, an individual may have to take additional courses to satisfy the requirements to be considered a state-certified doula.

¹⁶As per the 2020 report of the workgroup convened to develop recommendations for a Virginia Medicaid Doula Benefit, Medicaid coverage for doulas would pay for itself and could yield modest cost-savings. See <https://rga.lis.virginia.gov/Published/2020/RD629/PDF>.

¹⁷Pursuant to § 2.2-4007.04 of the Code of Virginia, small business is defined as "a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million."

¹⁸"Locality" can refer to either local governments or the locations in the Commonwealth where the activities relevant to the regulatory change are most likely to occur.

¹⁹§ 2.2-4007.04 defines "particularly affected" as bearing disproportionate material impact.

Agency's Response to Economic Impact Analysis: The Virginia Department of Health concurs with the economic impact analysis prepared by the Department of Planning and Budget.

Summary:

Pursuant to Chapter 724 of the 2020 Acts of Assembly, the proposed new regulation (i) establishes the minimum requirements to be considered a certified doula in Virginia based on the core competences for doula certification used by national organizations and community based organizations in Virginia and (ii) outlines the minimum standards required of the certifying body, which will be approved by the board and which will be responsible for confirming state-certified doulas, approving the training and education to meet doula certification requirements, and maintaining a registry of state-certified doulas available to the general public.

Chapter 403 Certification of Doulas

12VAC5-403-10. Definitions.

The following words and terms shall have the following meanings when used in this chapter unless the context clearly indicates otherwise:

"Antepartum" means the period of pregnancy prior to labor and delivery.

"Certifying body" means an organization approved by the State Board of Health that has as one of its purposes the certification of doulas.

"Community-based doula" means a doula who often has shared lived experiences and is trained to provide extended, culturally congruent support to families throughout pregnancy to include antepartum, intrapartum, during labor and birth, and up to one year postpartum. Community-based doulas provide an expanded set of services and play a crucial role in improving outcomes and experiences for communities most affected by discrimination and disparities in health outcomes.

"Doula" means a trained nonmedical professional who provides continuous physical, emotional, and informational support to a pregnant person during the antepartum or intrapartum period or during the period up to one year postpartum.

"Intrapartum" means the period of pregnancy after the onset of labor through delivery.

"Postpartum" means the period of pregnancy following birth.

"State-certified doula" means a trained, community-based nonmedical professional who provides continuous physical, emotional, and informational support to a pregnant person during the antepartum or intrapartum period or during the

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period up to one year postpartum who has been certified by a certifying body approved by the State Board of Health.

"Training entity" means an organization that has a training and education programs that are approved by a certifying body approved by the State Board of Health to meet the curriculum requirements for community-based doula certification.

12VAC5-403-20. State-certified doula.

Any person seeking to be a state-certified doula under this chapter shall be a community-based doula and shall (i) meet the qualifications and education requirements established in this chapter and (ii) hold a certification as a certified doula from a certifying body approved by the State Board of Health.

12VAC5-403-30. Qualifications.

A. Any person seeking to be a state-certified doula under this chapter shall complete at least 60 hours of doula training. Training shall be provided by one or more entities approved by a certifying body approved by the State Board of Health.

B. The training and education requirements outlined in 12VAC5-403-50 shall not apply to doulas who have already obtained an initial level of certification within three years prior to (insert the effective date of this regulation) and are applying to be a state-certified doula through the certifying body approved by the State Board of Health, provided that the applicant provides proof of completion of any unmet training and education requirements within one year of application.

12VAC5-403-40. Minimum standards for certifying bodies.

A. The State Board of Health shall approve a certifying body that has adopted standards from a nationally recognized organization that has a doula certification that reflects national best practices pertaining to community-based doula training and certification to establish certified doula training and education programs and to approve or accept continuing education courses for renewing doula certification in Virginia.

B. The certifying body shall:

1. Maintain a registry of state-certified doulas that is accessible to the public and displays the certification status of doulas.
2. Submit to the State Board of Health an annual report by the end of every fiscal year that identifies the number of new and cumulative state-certified doulas and the number of new and cumulative training programs approved for the purpose of providing doula certification.

C. The certifying body shall require its certificate holders to:

1. Adhere to a code of ethics set forth by the certifying body.
2. Complete at least 60 hours of training and education provided by one or more training entities approved by the certifying body.

12VAC5-403-50. Curriculum requirements.

A. Unless the exception in 12VAC5-403-30 B is met, any person seeking to be a state-certified doula under this chapter shall complete doula training and education programs that have been approved by the certifying body. The curriculum requirements for the certified doula training and education programs are outlined in the Virginia Curriculum Requirements for the State-Certified Doula and shall be approved by the certifying body.

B. The curriculum requirements for the certified doula training and education programs shall include a minimum of 60 hours in the following topics:

1. Maternal and Infant Health Concepts and Approaches (2 hours).
 - a. Provision of perinatal support services from 1st trimester to twelve months postpartum.
 - b. Provision of emotional and social support, including navigating pregnancy loss.
2. Lactation anticipatory guidance and support (10 hours).
3. Service Coordination and System Navigation (20 hours).
 - a. Provision of in-home prenatal and postpartum care support.
 - b. Assessing psychosocial and health needs, including perinatal mood and anxiety disorders (PMADs) screening.
 - c. Goal setting and prioritization of psychosocial and health needs.
 - d. Antepartum (high-risk) maternal care support.
 - e. Labor support.
 - f. Education and referrals for developmental screenings.
 - g. Resource navigation for wraparound services (i.e. intimate partner violence, domestic violence, oral health, family planning).
4. Health Promotion and Prevention (8 hours).
 - a. Provision of perinatal health education.
 - b. Provision of newborn parenting education
 - c. Provision of wellness and self-care coaching.
5. Advocacy, Outreach and Engagement (5 hours).
 - a. Serving as an advocate for respectful maternal care.
 - b. Intentional reflection of the community served.
 - c. Care coordination and social service navigation.
 - d. Provision of reproductive rights education, informed choice and decision making, and birth planning.
 - e. Child abuse and neglect mandatory reporting.
6. Communication (2 hours).
 - a. Respectful, client-centered maternal care.
 - b. Active listening.

c. Navigating patient families, medical support staff, and other support systems.

d. Responding to challenges.

7. Cultural Humility and Responsiveness (8 hours).

a. Intersectionality and cultural humility, including language access.

b. Health literacy.

c. Trauma-informed care.

8. Ethical Responsibilities and Professionalism (5 hours).

a. Code of Ethics, Standards of Practice, and HIPAA.

b. Required charting and documentation.

c. Serving as an accountability partner.

12VAC5-403-60. Continuing education.

Any person seeking to be a state-certified doula under this chapter shall be required to complete a minimum of 15 hours of continuing education every two years from the date of certification from a training entity approved by the certifying body pursuant to 12VAC5-403-40. These hours shall be in courses outlined in the Virginia Curriculum Requirements for the State-Certified Doula.

12VAC5-403-70. Certification not required.

This regulation does not require a doula to be certified by a certifying body approved by the State Board of Health in order to practice as a doula in Virginia.

VA.R. Doc. No. R21-6484; Filed April 21, 2021, 1:38 p.m.

Final Regulation

Title of Regulation: 12VAC5-590. Waterworks Regulations (amending 12VAC5-590-10, 12VAC5-590-40, 12VAC5-590-50, 12VAC5-590-70, 12VAC5-590-100 through 12VAC5-590-150, 12VAC5-590-190 through 12VAC5-590-270, 12VAC5-590-290 through 12VAC5-590-392, 12VAC5-590-405, 12VAC5-590-421, 12VAC5-590-430, 12VAC5-590-440, 12VAC5-590-450, 12VAC5-590-470 through 12VAC5-590-580, 12VAC5-590-600, 12VAC5-590-610, 12VAC5-590-630, 12VAC5-590-640, 12VAC5-590-660, 12VAC5-590-670, 12VAC5-590-680, 12VAC5-590-700, 12VAC5-590-720, 12VAC5-590-730, 12VAC5-590-760, 12VAC5-590-770, 12VAC5-590-790, 12VAC5-590-810, 12VAC5-590-820, 12VAC5-590-840, 12VAC5-590-850, 12VAC5-590-860, 12VAC5-590-880, 12VAC5-590-900 through 12VAC5-590-960, 12VAC5-590-990 through 12VAC5-590-1020, 12VAC5-590-1040, 12VAC5-590-1050, 12VAC5-590-1080, 12VAC5-590-1090, 12VAC5-590-1110 through 12VAC5-590-1180, 12VAC5-590-1210, 12VAC5-590-1220, 12VAC5-590-1230; adding 12VAC5-590-35, 12VAC5-590-45, 12VAC5-590-55, 12VAC5-590-115, 12VAC5-590-372, 12VAC5-590-373, 12VAC5-590-374, 12VAC5-590-376, 12VAC5-590-377, 12VAC5-590-378, 12VAC5-590-382, 12VAC5-590-383, 12VAC5-590-384,

12VAC5-590-388, 12VAC5-590-391, 12VAC5-590-395, 12VAC5-590-401, 12VAC5-590-411, 12VAC5-590-415, 12VAC5-590-461, 12VAC5-590-475, 12VAC5-590-476, 12VAC5-590-515, 12VAC5-590-531, 12VAC5-590-532, 12VAC5-590-546, 12VAC5-590-565, 12VAC5-590-725, 12VAC5-590-865, 12VAC5-590-871 through 12VAC5-590-875, 12VAC5-590-881, 12VAC5-590-882, 12VAC5-590-883, 12VAC5-590-895, 12VAC5-590-975, 12VAC5-590-985, 12VAC5-590-1001 through 12VAC5-590-1005, 12VAC5-590-1065, 12VAC5-590-1081, 12VAC5-590-1082, 12VAC5-590-1235; repealing 12VAC5-590-20, 12VAC5-590-30, 12VAC5-590-60, 12VAC5-590-80, 12VAC5-590-160, 12VAC5-590-170, 12VAC5-590-180, 12VAC5-590-280, 12VAC5-590-400, 12VAC5-590-410, 12VAC5-590-420, 12VAC5-590-425, 12VAC5-590-460, 12VAC5-590-590, 12VAC5-590-620, 12VAC5-590-650, 12VAC5-590-690, 12VAC5-590-710, 12VAC5-590-740, 12VAC5-590-750, 12VAC5-590-780, 12VAC5-590-800, 12VAC5-590-870, 12VAC5-590-890, 12VAC5-590-970, 12VAC5-590-980, 12VAC5-590-1030, 12VAC5-590-1060, 12VAC5-590-1070, 12VAC5-590-1100, 12VAC5-590-1190, 12VAC5-590-1200, 12VAC5-590-1240 through 12VAC5-590-1280, Appendices A through E, Appendix G, Appendix I, Appendices L through P).

Statutory Authority: §§ 32.1-12 and 32.1-170 of the Code of Virginia.

Effective Date: June 23, 2021.

Agency Contact: Dwayne Roadcap, Office Director, Office of Drinking Water, Virginia Department of Health, 109 Governor Street, Richmond, VA 23219, telephone (804) 864-7522, or email dwayne.roadcap@vdh.virginia.gov.

Summary:

The amendments reorganize provisions; add new sections to expand or clarify existing requirements or incorporate new ones; remove obsolete information and duplication; update citations; correct sentence structure, grammar, spelling, and typographical errors; and improve consistency.

In Part I (General Framework for Waterworks Regulations), amendments (i) revise, add, or delete definitions; (ii) add units of measurement; (iii) add new sections regarding the Waterworks Advisory Committee, the relationship of the Waterworks Regulations to the Uniform Statewide Building Code, and administrative proceedings and enforcement requirements; (iv) clarify and streamline the permit process, including the requirements for obtaining a construction permit; and (v) add requirements and circumstances for issuance of a temporary operation permit.

In Part II (Operation Regulations for Waterworks), amendments (i) consolidate all water quality standards, maximum contaminant levels, action levels, treatment techniques, and maximum disinfectant levels and goals; (ii) revise and clarify the procedure for determining surface water influence of groundwater sources; (iii) revise and

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clarify the classification of waterworks, operator requirements, and operator attendance; (iv) add new sections for abandoning and reactivating wells; (v) reorganize operation report content requirements; (vi) revise and clarify cross-connection control program requirements; and (vii) generally reorganize content into smaller sections.

In Part III (Manual of Practice for Waterworks Design), amendments (i) update design water demand and waterworks capacity requirements; (ii) revise and clarify metering, building design, layout, laboratory design, and new source development requirements for groundwater sources, including springs; (iii) clarify well construction requirements and classification; (iv) distinguish and clarify construction, testing, and capacity requirements for wells located in designated groundwater management areas; (iv) revise and clarify water treatment processes by adding new sections for membrane filtration, bag and cartridge filtration, pre-engineered package treatment units, powdered activated carbon, disinfection processes using chloramines, chlorine dioxide, ultraviolet light, and ozone; (v) clarify design requirements for pump stations and equipment; (vi) distinguish atmospheric and pressure storage tank design requirements; (vii) add a new section on water loading stations; and (viii) generally reorganize content into new, smaller sections.

In Part IV (Exceptions for Noncommunity Waterworks) and the appendices, amendments move some requirements into Part II or III of the chapter and repeal Part IV and all appendices.

Amendments, identified as substantive by the agency, to the proposed regulation (i) add special monitoring requirements for sodium in drinking water; (ii) add a requirement that an owner shall document the Cross-Connection Control Program in a plan and submit the written plan to the department for review and approval and clarify owner and department must ensure cross-connections are adequately safeguarded; (iii) update and clarify requirements in the Cross-Connection Control Program; (iv) update conditions where actual or potential cross-connection hazards can be eliminated or controlled by allowing point-of-use isolation backflow protection instead of containment; (v) update low-hazard and high-hazard examples of backflow situations; and (vi) clarify design requirements for hydrants and flushing devices.

Article 1 Definitions

12VAC5-590-10. Definitions and units of measurement.

A. Definitions. As used in this chapter, the following words and terms, and abbreviations shall have meanings respectively set forth unless the context clearly requires a different meaning:

"Action level" or "AL" means the concentration of lead or copper in water specified in 12VAC5-590-385, which determines, in some cases, the treatment requirements contained in 12VAC5-590-405 that an owner is required to complete.

"Administrative Process Act" or "APA" means Chapter 40 (§ 2.2-4000 et seq.) of Title 2.2 of the Code of Virginia. The APA is the basic law conferring authority on agencies either to make regulations or case decisions as well as to standardize court review thereof.

"Air gap separation" means the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying pure water to a tank, plumbing fixture, or other device and the rim of the receptacle point of the potable water outlet and the flood rim of the receiving vessel.

"Annual daily water demand" means the average rate of daily water usage over at least the most recent three year period.

"ANSI" means the American National Standards Institute.

"Applied water" means water that is ready for filtration.

~~"Approved" means material, equipment, workmanship, process or method that has been accepted by the commissioner as suitable for the proposed use.~~

"ASME" means the American Society of Mechanical Engineers.

["ASSE" means the American Society of Sanitary Engineering.]

"ASTM" means the American Society for Testing and Materials.

"Auxiliary water system" means any water supply or system on or available to the premises of the consumer other than the waterworks. These auxiliary waters may include water from a source such as wells, lakes, or streams; process fluids; or used water. They may be polluted or contaminated or, objectionable, or of questionable quality and constitute an unapproved water source supply or system over which the water purveyor waterworks owner does not have control.

"AWWA" means the American Water Works Association.

"Backflow" means the undesirable reversal of flow of water or mixtures of water and other liquids, mixtures gases, or other substances into the distribution piping of a waterworks from any source or sources other than its intended source.

"Backflow elimination method" means the air gap separation or physical disconnection that will eliminate the cross-connection.

"Backflow prevention assembly" means a mechanical unit, designed to [control various cross-connections and] stop the reversal of flow that includes an inlet and outlet shutoff valve

and test cocks [to facilitate testing of the assembly], Backflow prevention assemblies include the reduced pressure principle backflow prevention [(RPZ)] assembly, the double [gate-double] check valve assembly, and the pressure vacuum breaker assembly.

"Backflow prevention device" means ~~any approved device, method, or type of construction intended to prevent backflow into a waterworks.~~ a mechanical unit designed to [control cross-connections and] stop the reversal of flow that is not testable because it does not have inlet and outlet shutoff valves or test cocks. A backflow prevention device is not generally designed or constructed to withstand [backpressure continuous pressure over 12 hours, or to control high hazards]. A backflow prevention device generally includes the atmospheric type vacuum breakers and the dual check valve type devices.

"Backpressure backflow" means backflow caused by pressure in the downstream piping that is superior to the supply pressure at the point of consideration.

"Backsiphonage" means backflow caused by a reduction in pressure that causes a partial vacuum, creating a siphon effect.

"Bag filters" means pressure-driven separation devices that remove particulate matter larger than one micrometer using an engineered porous filtration media. ~~They~~ Bag filters are typically constructed of a nonrigid, fabric filtration media housed in a pressure vessel in which the direction of flow is from the inside of the bag to outside.

"Bank filtration" means a water treatment process that uses a well to recover surface water that has naturally infiltrated into groundwater through a river bed ~~or bank(s) or bank.~~ Infiltration is typically enhanced by the hydraulic gradient imposed by a nearby pumping water supply or other ~~well(s) well.~~

"Best available technology" or "BAT" means the best practicable technology, treatment techniques, or other means that the [commissioner department] finds, after examination for efficacy under field conditions and not solely under laboratory conditions ~~and in conformance with applicable EPA regulations,~~ that are available (taking cost into consideration).

"Board" means the State Board of Health.

"Breakpoint chlorination" means ~~the addition of chlorine to water until the chlorine demand has been satisfied and further additions result in a residual that is directly proportional to the amount added.~~

"Boil water advisory" and "boil water notice" mean a statement that informs consumers that drinking water is or may be contaminated and that the water should be boiled before being used for human consumption.

"BSSP" means a bacteriological sample siting plan.

"CAP" means a corrective action plan.

"Cartridge filters" means pressure-driven separation devices that remove particulate matter larger than one micrometer using an engineered porous filtration media. ~~They~~ Cartridge filters are typically constructed as rigid or semi-rigid, self-supporting filter elements housed in pressure vessels in which flow is from the outside of the cartridge to the inside.

"Chlorine" means ~~dry chlorine.~~

"Chlorine gas" means ~~dry chlorine in the gaseous state.~~

"Chlorine solution (chlorine water)" means ~~a solution of chlorine in water.~~

"Chronically noncompliant waterworks" or "CNC" means ~~a waterworks that is unable to provide pure water for any of the following reasons: (i) the waterworks' record of performance demonstrates that it can no longer be depended upon to furnish pure water to the persons served; (ii) the owner has inadequate technical, financial, or managerial capacity to furnish pure water to the people served; (iii) the owner has failed to comply with an order issued by the board or the commissioner; (iv) the owner has abandoned the waterworks and has discontinued supplying pure water to the persons served; or (v) the owner is subject to a forfeiture order pursuant to § 32.1-174.1 of the Code of Virginia.~~

"Case decision" means an agency determination as defined in § 2.2-4001 of the Code of Virginia.

"CCCP" means a cross-connection control program.

"CCR" means consumer confidence report.

"CDC" means the Centers for Disease Control and Prevention.

"CFE" means the combined filter effluent.

"CFR" means the Code of Federal Regulations.

"Clean compliance history" means a record of no PMCL violations for microbiological contaminants, no monitoring violations under 12VAC5-590-370, and no coliform treatment technique trigger exceedances or treatment technique violations under 12VAC5-590-392.

"Coagulation" means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into floc.

"Coliform bacteria group" means ~~a group of bacteria predominantly inhabiting the intestines of man or animal but also occasionally found elsewhere. It includes all aerobic and facultative anaerobic, gram negative, non sporeforming bacilli that ferment lactose with production of gas. Also included are all bacteria that produce a dark, purplish-green colony with metallic sheen by the membrane filter technique used for coliform identification.~~

"Combined distribution system" means the interconnected distribution system consisting of the distribution systems of

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wholesale waterworks and of the consecutive waterworks that receive finished water.

"Commissioner" means the State Health Commissioner, who is the executive officer of the board.

"Community waterworks" means a waterworks that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

"Compliance cycle" means the nine-year calendar year cycle during which a waterworks shall monitor. Each compliance cycle consists of three three-year compliance periods. The first calendar year cycle ~~begins~~ began January 1, 1993, and ~~ends~~ ended December 31, 2001; ~~the second begins~~ the second began January 1, 2002, and ~~ends~~ ended December 31, 2010; ~~the third begins~~ the third began January 1, 2011, and ~~ends~~ ended December 31, 2019 with subsequent compliance cycles continuing thereafter.

"Compliance period" means a three-year calendar year period within a compliance cycle. Each compliance cycle ~~has~~ consists of three three-year compliance periods. ~~Within the first compliance cycle, the first compliance period runs from January 1, 1993, to December 31, 1995; the second from January 1, 1996, to December 31, 1998; the third from January 1, 1999, to December 31, 2001. The first compliance period began January 1, 1993, and ended December 31, 1995, with subsequent compliance periods continuing thereafter.~~

~~"Comprehensive performance evaluation" or "CPE" means a thorough review and analysis of a treatment plant's performance based capabilities and associated administrative, operational and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. For purposes of compliance with 12VAC5-590.530 E 1 b (2), the comprehensive performance evaluation shall consist of at least the following components: assessment of plant performance, evaluation of major unit processes, identification and prioritization of performance limiting factors, assessment of the applicability of comprehensive technical assistance, and preparation of a CPE report.~~

"Comprehensive business plan" means a plan detailing the technical, managerial, and financial [(TMF)] commitments that the owner will make in order to assure that the waterworks will have the capability to provide water that complies with this chapter over the long term.

"Confirmation sample" means a sample to be collected by the owner within a specified time after the results of the initial sample are known to have exceeded a specified limit or standard in order to validate the initial result and to determine compliance.

"Confluent growth" means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.

"Consecutive waterworks" means a waterworks that ~~has no water production or source facility of its own and that obtains all of its water from another permitted waterworks or~~ receives some or all of its finished water from one or more ~~wholesale waterworks. Consecutive waterworks may provide additional treatment to finished water.~~ Delivery may be through a direct connection or through the distribution system of one or more consecutive waterworks.

"Consolidated" means rock made from sedimentary, igneous, or metamorphic materials that have been metamorphosed or cemented together forming strata or bodies of rock.

"Consumer" means any person ~~who drinks~~ receiving water for human consumption from a waterworks.

"Consumer's water system" means any water system located on the consumer's premises, supplied by or in any manner connected to a waterworks.

"Containment" means the safeguard against backflow into a waterworks from a consumer's water system by installing an appropriate backflow prevention assembly, backflow prevention device, or backflow elimination method at the service connection [or downstream of the service connection but before any unprotected takeoffs].

"Contaminant" means any objectionable or hazardous physical, chemical, biological, or radiological substance or matter in water.

"Conventional filtration treatment" means a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal.

"Corrosion inhibitor" means a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

~~"Cross-connection"~~ "Cross-connection" means any connection or structural arrangement, direct or indirect, to the waterworks whereby actual or potential link, connection, or physical arrangement, direct or indirect, between used water, an auxiliary water system, or other source of contamination [or pollution] to the waterworks through which backflow can occur.

~~"CT" or "CT_{calc}" means the product of "residual disinfectant concentration" (C) in mg/L determined before or at the first customer, and the corresponding "disinfectant contact time" (T) in minutes (i.e., "C" x "T").~~

~~"Daily fluid intake" means the daily intake of water for drinking and culinary use and is defined as two liters.~~

~~"Dechlorination" means the partial or complete reduction of residual chlorine in water by any chemical or physical process at a waterworks with a treatment facility.~~

"Degree of hazard" means the level of health hazard, as derived from an evaluation of the potential risk to health and the adverse effect upon the waterworks.

"DBPPs" means disinfection byproduct precursors.

"DBPs" means disinfection byproducts.

"DCLS" means the Virginia Department of General Services, Division of Consolidated Laboratory Services.

"Department" means the Virginia Department of Health.

"DEQ" means the Virginia Department of Environmental Quality.

"Diatomaceous earth filtration" means a process resulting in substantial particulate removal in which (i) a precoat cake of diatomaceous earth filter media is deposited on a support membrane (septum), and (ii) while the water is filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake.

"Direct filtration" means a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.

"Disinfectant" means any oxidant (including chlorine) that is chemical and physical agents, including chlorine, chlorine dioxide, chloramines, ozone, and UV light, added to water in any part of the treatment or distribution process for the purpose of killing or deactivating inactivating pathogenic organisms.

"Disinfectant contact time" ("T" in CT calculations) means the time in minutes that it takes for water to move from the point of disinfectant application to the point where residual disinfectant concentration ("C") is measured.

"Disinfection" means a process that inactivates or destroys pathogenic organisms in water by chemical oxidants or equivalent agents use of a disinfectant.

"Disinfection profile" means a summary of Giardia lamblia or virus inactivation through the water treatment plant.

"Distribution main" means a water main pipeline whose primary purpose is to provide treated convey drinking water to service connections.

"District engineer" means the employee assigned by the Commonwealth of Virginia, Department of Health, Office of Drinking Water to manage its regulatory activities in a geographical area of the state consisting of a state planning district or subunit of a state planning district.

"Domestic or other nondistribution system plumbing problem" means a coliform contamination problem in a waterworks with more than one service connection that is limited to the specific service connection from which the coliform positive sample was taken.

"Distribution system" means a network of pipelines and appurtenances by which a waterworks delivers drinking water to its consumers.

"DOC" means the dissolved organic carbon in a water sample.

"Double [~~gate double~~] check valve assembly" [or "double check detector backflow assembly"] means [~~an approved a backflow prevention~~] assembly composed of two single independently acting check valves including tightly closing shutoff valves located at each end of the assembly and [~~peteocks and test gauges for testing the watertightness of each eheck valve test cocks to facilitate testing of the assembly, used for low hazard situations~~].

"DPOR" means the Virginia Department of Professional and Occupational Regulation.

"Drawdown" means the difference, measured vertically, between the static water level in the well and the water level during pumping.

"Dual sample set" means a set of two samples collected at the same time and same location, with one sample analyzed for TTHM and the other sample analyzed for HAA5. ~~Dual sample sets are collected for the purposes of conducting an initial distribution system evaluation (IDSE) under 12VAC5-590-370 B 3 e (2) and determining compliance with the TTHM and HAA5 MCLs under 12VAC5-590-370 B 3 e (3).~~

"Effective corrosion inhibitor residual" means, for the purpose of 12VAC5-590-405 A 1 only, a concentration sufficient to form a passivating film on the interior walls of a pipe.

[~~"EDR" means electro dialysis reversal.~~]

"Enhanced coagulation" means the addition of sufficient coagulant for improved removal of disinfection byproduct precursors by conventional filtration treatment.

"Enhanced softening" means the improved removal of disinfection byproduct precursors by precipitative softening.

"Entry point" means the place where water from the source after application of any treatment is delivered to the distribution system. Where two or more sources are combined before distribution, the entry point is the location that is representative of the blended water following all treatment.

"Equivalent residential connection" means a volume of water used equal to a residential connection that is 400 gallons per day unless supportive data indicates otherwise.

"Exception" means an approved deviation from a "shall" criteria contained in Part III (12VAC5-590-640 et seq.) of this chapter.

"EPA" means the U.S. Environmental Protection Agency.

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"Exemption" means ~~a conditional waiver of allowing a waterworks that satisfies the criteria in 12VAC5-590-150 to deviate from a specific PMCL or treatment technique requirement that is granted to a specific~~ the waterworks for a limited period of time.

"Filter profile" means a graphical representation of individual filter performance, based on continuous turbidity measurements or total particle counts versus time for an entire filter run, from ~~start-up~~ start-up to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed.

"Filtration" means a process for removing particulate matter from water by passage through porous media.

"Finished water" means water that is introduced into the distribution system of a waterworks and is intended for distribution and consumption without further treatment, except as treatment is necessary to maintain water quality in the distribution system [(e.g., booster disinfection), ~~addition of corrosion control chemicals~~].

~~"First draw sample" means a one-liter sample of tap water, collected in accordance with 12VAC5-590-375-B-2, that has been standing in plumbing pipes at least six hours and is collected without flushing the tap.~~

"Flocculation" means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means.

"Flowing stream" means a course of running water flowing in a definite channel.

"Free available chlorine" means that portion of the total residual chlorine residual remaining in water at the end of a specified contact period that will react chemically and biologically as hypochlorous acid or hypochlorite ion.

~~"GAC10" means granular activated carbon filter beds with an empty bed contact time of 10 minutes based on average daily flow and a carbon reactivation frequency of every 180 days, except that the reactivation frequency for GAC10 used as a best available technology for compliance with 12VAC5-590-410-C-2-b(1)(b) shall be 120 days.~~

~~"GAC20" means granular activated carbon filter beds with an empty bed contact time of 20 minutes based on average daily flow and a carbon reactivation frequency of every 240 days.~~

~~"Governmental entity" means the Commonwealth, a town, city, county, service authority, sanitary district, or any other governmental body established under the Code of Virginia, including departments, divisions, boards, or commissions.~~

"GAC" means granular activated carbon.

"Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

"Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.

"Groundwater" means all water obtained from sources not classified as surface water ~~(or surface water sources)~~.

"Groundwater system" means any waterworks that uses groundwater as its source of supply; however, a waterworks that combines all its groundwater with surface water or with groundwater under the direct influence of surface water ~~prior to before~~ treatment is not a groundwater system. Groundwater systems include consecutive waterworks that receive finished groundwater from a wholesale waterworks potable water from another groundwater source.

"Groundwater under the direct influence of surface water" or "GUDI" means any water beneath the surface of the ground with (i) significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia*, or *Cryptosporidium*. ~~It also means or (ii)~~ significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH that closely correlate to climatological or surface water conditions. ~~The commissioner~~ GUDI source determinations shall be made by the department in accordance with 12VAC5-590-430 ~~will determine direct influence of surface water.~~

"GWMA" means the groundwater management area designation by the State Water Control Board.

"Haloacetic acids (five)" or "HAA5" means the sum of the concentrations ~~in milligrams per liter of the haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid), rounded to two significant figures after addition~~ acids, expressed in milligrams per liter (mg/L) as rounded to two significant figures. For the purpose of this chapter the HAA5 shall mean monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.

"Halogen" means one of the chemical elements chlorine, bromine, fluorine, astatine, or iodine.

"Health hazard" means any condition, device, or practice in a waterworks or its operation that creates, or may create, a danger to the health and well-being of the water consumer.

~~"Health regulations" means regulations that include all primary maximum contaminant levels, treatment technique requirements, and all operational regulations, the violation of which would jeopardize the public health.~~

"HPC" means the heterotrophic plate count of a bacterial population.

"Human consumption" means drinking, food preparation, dishwashing, bathing, showering, hand washing, teeth brushing, and maintaining oral hygiene.

"Hypochlorite" means a solution of water and some form of chlorine, usually sodium hypochlorite the ionic component from the disassociation of hypochlorous acid that performs the function of disinfection. It is the available active ingredient in liquid hypochlorite disinfectants such as sodium and calcium hypochlorite.

~~"Initial compliance period" means for all regulated contaminants, the initial compliance period is the first full three year compliance period beginning at least 18 months after promulgation with the exception of waterworks with 150 or more service connections for contaminants listed at Table 2.3, VOC 19 21; Table 2.3, SOC 19 33; and antimony, beryllium, cyanide (as free cyanide), nickel, and thallium that shall begin January 1993 the compliance period in which chemical [monitoring begins and radiological monitoring began, and it is represented by the first full three-year compliance period beginning at least 18 months after rule promulgation. It applies to inorganic, organic, and radionuclide contaminants listed in Tables 340.1, 340.2, and 340.4, respectively].~~

~~"Interchangeable connection" means an arrangement or device that will allow alternate but not simultaneous use of two sources of water.~~

"Isolation" means the safeguard against backflow into a waterworks from a consumer's water system by installing an appropriate backflow prevention assembly or device or by installing a backflow elimination method at the sources of potential contamination in the consumer's water system. This is also called point-of-use isolation.

~~"Karst geology" means an area predominantly underlain by limestone, dolomite, or gypsum and characterized by rapid underground drainage. Such These areas often feature sinkholes, caverns, and sinking or disappearing creeks. ~~In~~ Virginia, this generally includes all that area west of the Blue Ridge and, in Southwest Virginia, east of the Cumberland Plateau.~~

~~"Lake/reservoir" "Lake or reservoir" means a natural or manmade man-made basin or hollow on the Earth's surface in which water collects or is stored that may or may not have a current or single direction of flow.~~

~~"Large waterworks" means, for the purposes of 12VAC5-590 375, 12VAC5 590 405, 12VAC5 590 530 F, and 12VAC5 590 550 D only, a waterworks that serves more than 50,000 persons.~~

~~"Lead free" means the following: 1. When (i) when used with respect to solders and flux, refers to solders and flux containing not more than 0.2% lead; 2. When and (ii) when used with respect to pipes, and pipe fittings, refers to pipes and pipe~~

~~fittings containing not more than 8.0% lead; pipe fittings, plumbing fittings, and plumbing fixtures, refers to the weighted average of wetted surfaces of pipes, pipe fittings, plumbing fittings, and plumbing fixtures containing not more than 0.25% lead.~~

~~3. When used with respect to plumbing fittings and fixtures intended by the plumbing manufacturer to dispense water for human ingestion, refers to fittings and fixtures that are in compliance with standards established in accordance with 42 USC § 300g 6(e).~~

~~"Lead service line" means a service line pipeline made of lead that connects the water distribution main to the building inlet and any lead pigtail, gooseneck, or other fitting that is connected to such lead line the lead pipeline.~~

"Leakage" means the loss of potable water from the distribution system, up to the points of service connections, through breaks or defects in piping and piping appurtenances.

~~"Legionella" means a genus of bacteria, some species of which have caused cause a type of pneumonia called Legionnaires disease.~~

~~"Level 1 assessment" means an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and, when possible, the likely reason that the waterworks triggered the assessment.~~

~~"Level 2 assessment" means an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and, when possible, the likely reason that the waterworks triggered the assessment in a more comprehensive investigation than a Level 1 assessment.~~

~~"Liquid chlorine" means a liquefied, compressed chlorine gas as shipped in commerce.~~

~~"Locational running annual average" or "LRAA" means the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.~~

~~"Log inactivation (log removal)" means that a 99% reduction is a 2 log inactivation; a 99.9% reduction is a 3 log inactivation; a 99.99% reduction is a 4 log inactivation the inactivation of organisms expressed on a logarithmic scale. For example, a 99.9% inactivation is a 3-log inactivation; whereas a 99.99% inactivation is a 4-log inactivation.~~

~~"Manmade beta particle and photon emitters" means all radionuclides emitting beta particles and/or photons listed in the most current edition of "Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure," National Bureau of Standards Handbook 69, except the daughter products of thorium 232, uranium 235 and uranium 238.~~

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"Log removal" means the removal of organisms expressed on a logarithmic scale. For example, a 99.9% is a 3-log removal; whereas a 99.99% removal is a 4-log removal.

"Maximum contaminant level" or "MCL" means the maximum permissible level of a contaminant in pure potable water that is delivered to any user consumer of a waterworks. MCLs are set as close to the MCLGs as feasible using the best available treatment technology BAT. MCLs may be either "primary" (PMCL), meaning based on health considerations, or "secondary" (SMCL), meaning based on aesthetic considerations.

"Maximum contaminant level goal" or "MCLG" means the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur [and that allows an adequate margin of safety]. [Applying an adequate margin of safety to the MCLG allows the MCL to be set as the standard.] Maximum contaminant level goals are nonenforceable health goals.

"Maximum daily water demand" means the rate of water usage during the day of maximum water use.

"Maximum residual disinfectant level" or "MRDL" means a level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. For chlorine and chloramines, a waterworks is in compliance with the MRDL when the running annual average of monthly averages of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL. For chlorine dioxide, a waterworks is in compliance with the MRDL when daily samples are taken at the entrance to the distribution system and no two consecutive daily samples exceed the MRDL. MRDLs are enforceable in the same manner as maximum contaminant levels. There is convincing evidence that addition of a disinfectant is necessary for control of waterborne microbial contaminants. Notwithstanding the MRDLs listed in Table 2.12, operators may increase residual disinfectant levels of chlorine or chloramines (but not chlorine dioxide) in the distribution system to a level and for a time necessary to protect public health to address specific microbiological contamination problems caused by circumstances such as distribution line breaks, storm runoff events, source water contamination, or cross connections.

"Maximum residual disinfectant level goal" or "MRDLG" means the maximum level of a disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur, and that allows an adequate margin of safety. MRDLGs are nonenforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contaminants.

"Maximum total trihalomethane potential" or "MTP" means the maximum concentration of total trihalomethanes (TTHMs)

produced in a given water containing a residual disinfectant residual after seven days at a temperature of 25°C or above.

"Medium waterworks" means, for the purpose of 12VAC5-590-375 and 12VAC5-590-405 only, a waterworks that serves greater than 3,300 and less than or equal to 50,000 persons.

"Membrane filtration" means a pressure or vacuum-driven separation process in which particulate matter larger than one micrometer is rejected by an engineered barrier, primarily through a size exclusion mechanism, and that has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test. This definition includes the common membrane technologies of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis. Included in this definition are the common membrane classifications of microfiltration (MF), ultrafiltration (UF), nanofiltration (NF), and reverse osmosis (RO).

"Membrane module" means the smallest component of a membrane unit in which a specific membrane surface area is housed in a device with a filtrate outlet.

"Membrane [technologies technology]" means [those processes a process] that [use uses] a permeable membrane to remove ions, molecules, or particles from the process stream, such as MF, UF, NF, RO, and [EDR electro dialysis reversal (EDR)].

"Membrane unit" means a group of membrane modules that share common valving that allows the unit to be isolated from the rest of the system for the purpose of integrity testing or other maintenance.

"Method detection limit" or "MDL" means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

"Microfiltration" or "MF" means a pressure-driven membrane technology that separates particles, based on the pore-size rating of the membrane, from a feed stream by using a sieving mechanism. Typically, MF can remove particles down to 0.1 micrometer in size.

"Most probable number" or "MPN" means that the density or number of organisms per unit volume that, in accordance with statistical theory, would be more likely than any other number to yield the observed test result or that would yield the observed test result with the greatest frequency, expressed as density of organisms per 100 milliliters. Results are computed from the number of positive findings of coliform group organisms resulting from multiple portion decimal dilution plantings most likely to be present in a water sample and obtained from method-specific statistical MPN tables.

"MPA" means the microscopic particulate analysis method approved by EPA for use in the determination of whether a groundwater is under the influence of surface water.

"Nanofiltration" or "NF" means a pressure-driven membrane technology designed to remove multivalent ions ("softening") and other constituents based on the pore size, which ranges from one to 10 nanometers. Nanofiltration membranes typically operate under a pressure range of 600 to 1100 psi.

["~~Nondetected" or "ND" means a term typically used by laboratories to express the absence of an analyte in a test sample.~~]

"Noncommunity waterworks" means a waterworks that is not a community waterworks, but operates at least 60 days out of the year.

"Nonpotable water" means water not classified as pure water.

"Nontransient noncommunity waterworks" or "NTNC" means a waterworks that is not a community waterworks and that regularly serves at least 25 of the same persons over six months out of the year. When used in the context of an NTNC, "regularly serves" means four or more hours per day, for four or more days per week, for 26 or more weeks per year.

"NSF" means [NSF International, formerly known as] the National Sanitation Foundation. [NSF collaborates with ANSI and Canadian authorities on drinking water standards development (NSF/ANSI/CAN).]

"Office" or "ODW" means the Commonwealth of Virginia, Department of Health, Office of Drinking Water.

"One hundred year flood level" elevation" or "100-year flood elevation" means the flood elevation that will, over a long period of time, be equaled or exceeded on the average once every 100 years that has a 1.0% probability of being equaled or exceeded in any given year.

"Operating staff" means individuals employed or appointed by an owner to work at a waterworks. Included in this definition are operators, whether or not the operator's license is appropriate for the classification and category of the waterworks, and unlicensed individuals.

"Operator" means any individual with the requisite skills, employed or appointed by any owner, ~~and~~ who is designated by ~~such~~ the owner to be the person ~~in responsible charge, such as having full responsibility for the waterworks operations and any subordinate operating staff. The individual may be a supervisor, a shift operator, or a substitute in charge, and whose have duties include including~~ testing or evaluation to control waterworks operations. Not included in this definition are superintendents or directors of public works, city engineers, or other municipal or industrial officials whose duties do not include the actual operation or direct supervision of waterworks.

"Optimal corrosion control treatment" means the corrosion control treatment that minimizes the lead and copper concentrations at ~~users'~~ consumers' taps while ensuring that the

treatment does not cause the waterworks to violate any other section of this chapter.

"Optimum fluoride ion concentration" means that fluoride ion concentration recommended by the U.S. Public Health Service for protection from dental caries.

"Owner" or "water purveyor" means an individual, group of individuals, partnership, firm, association, institution, corporation, governmental entity, or the federal government that supplies or proposes to supply water to any person within ~~this state~~ the Commonwealth from or by means of any waterworks (see Article 2 (§ 32.1-167 et seq.) of Chapter 6 of Title 32.1 of the Code of Virginia).

"PAC" means powdered activated carbon.

"PCBs" means polychlorinated biphenyls.

"PER" means a preliminary engineering report.

"Permit" means an authorization granted by the commissioner to construct or operate a waterworks.

"Permitted capacity" means the limiting hydraulic capability of the waterworks, taking into consideration the source water capacity, treatment facilities, finished water storage, delivery, and distribution system.

"Person" means any individual, corporation, partnership, association, cooperative, limited liability company, trust, joint venture, government, political subdivision, or any other legal or commercial entity and any successor, representative, agent, or instrumentality thereof.

"pH" means the negative logarithm of the hydrogen ion concentration of an aqueous solution.

"Physical disconnection" means the removal or absence of pipes, fittings, or fixtures that connect a waterworks directly or indirectly to any other water system.

"Picocurie" or "pCi" means that quantity of radioactive material producing 2.22 nuclear transformations per minute.

"Plant intake" means the works or structures at the head of a conduit through which water is diverted from a source (e.g., river or lake) into the treatment plant.

"PMCL" means the [same as "~~maximum contaminant level~~," primary maximum contaminant level of a contaminant based on health considerations.]

"Point of disinfectant application" means the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface ~~water~~ runoff.

"Point-of-entry ~~treatment~~ device" or "POE device" means a treatment device applied to the water entering a house or building for the purpose of reducing contaminants in the water distributed throughout the house or building.

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"Point-of-use ~~treatment~~ device" or "POU device" means a treatment device applied to a single tap for the purpose of reducing contaminants in the water at that one tap.

"Pollution" means the presence of any foreign substance (chemical, physical, radiological, or biological) in water that tends to degrade its quality so as to constitute an unnecessary risk to human health or impair the usefulness of the water.

~~"Pollution hazard" means a condition through which an aesthetically objectionable or degrading material may enter the waterworks or a consumer's water system.~~

~~"Postchlorination" means the application of chlorine to water subsequent to treatment.~~

"Potable water" —see ~~"Pure~~ means the same as "pure water."

"Practical quantitation level" or "PQL" means the lowest level ~~achievable by good laboratories within specified limits during routine laboratory operating conditions~~ that can be reliably measured within specified limits of precision and accuracy during routine laboratory conditions.

"Prechlorination" means the application of chlorine to water ~~prior to~~ before filtration.

"Presedimentation" means a preliminary treatment process used to remove gravel, sand, and other particulate material from the source water through settling before the water enters the primary clarification and filtration processes in a water treatment plant.

"Pressure vacuum breaker assembly" means [~~an~~ a backflow prevention] assembly designed to prevent backsiphonage and used for [~~high hazard~~ high hazard] or [~~low hazard~~ low hazard] situations, composed of an independently operating, spring-loaded check valve; an independently operating, spring-loaded air-inlet valve; and tightly closing shutoff valves located at each end of the assembly and fitted with properly located test cocks [to facilitate testing of the assembly].

"Primary disinfection" means disinfection to achieve a desired level of inactivation of targeted pathogenic organisms in water by chemical or physical agents as an integral part of the treatment process.

"Process fluids" means any fluid or solution that may be chemically, biologically, or otherwise contaminated or polluted that would constitute a health, ~~pollutional~~ environmental, or system hazard if introduced into the waterworks. This includes, ~~but is not limited to:~~ (i) polluted or contaminated water; (ii) used waters; (iii) cooling waters; (iv) contaminated natural waters taken from wells, lakes or reservoirs, streams, or irrigation systems; (v) chemicals in solution or suspension; or (vi) oils, gases, acids, alkalis, and other liquid and gaseous fluid used in industrial or other processes.

1. Polluted or contaminated water;

2. ~~Process waters;~~

3. ~~Used waters, originating from the waterworks that may have deteriorated in sanitary quality;~~

4. ~~Cooling waters;~~

5. ~~Contaminated natural waters taken from wells, lakes, streams, or irrigation systems;~~

6. ~~Chemicals in solution or suspension; and~~

7. ~~Oils, gases, acids, alkalis, and other liquid and gaseous fluid used in industrial or other processes, or for firefighting purposes.~~

"Process water" means water used for dissolving dry chemicals; diluting liquid chemicals; and operating chemical feeders, treatment facilities, or equipment.

"Project documents" means the engineer's report, design criteria, preliminary and final plans, specifications, and procurement documents for the construction of new waterworks or modifications to existing waterworks.

"Pure water" means water fit for human consumption that is (i) sanitary and normally free of minerals, organic substances, and toxic agents in excess of reasonable amounts and (ii) adequate in quantity and quality for the minimum health requirements of the persons served (see Article 2 (§ 32.1-167 et seq.) of Chapter 6 of Title 32.1 of the Code of Virginia).

"Raw water main" means a water main that conveys untreated water from a source to a treatment facility.

"QCRV" means the quality control release value used in challenge tests of microfiltration (MF) and ultrafiltration (UF) membrane filters.

"RAA" means running annual average.

"Reduced pressure principle backflow prevention device assembly" or ["reduced pressure zone backflow prevention assembly" or] "RPZ device assembly" means a device containing a minimum of two independently acting check valves together with an automatically operated pressure differential relief valve located between the two check valves an assembly designed to prevent backsiphonage or backpressure backflow [and] used for high or low hazard situations, composed of two independently operating spring-loaded check valves together with an independent, hydraulically operating pressure differential relief valve located between the two check valves. During normal flow and at the cessation of normal flow, the pressure between these two checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure between the check valves at less than the supply pressure. The unit assembly shall include tightly closing shutoff valves located at each end of the device, RPZ assembly and each device shall be fitted with properly located test cocks

[to facilitate testing of the assembly]. ~~These devices shall be of the approved type.~~

"REM" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A millirem (~~MREM~~) (mrem) is 1/1000 of a an REM.

"Repeat compliance period" means any subsequent compliance period after the initial compliance period.

"Residual disinfectant concentration" (~~"C" in CT Calculations~~) means the concentration of disinfectant measured in mg/L in a representative sample of water.

"Responsible charge" means designation by the owner of any individual to have duty and authority to operate or modify the operation of waterworks processes.

"Sanitary facilities" means ~~pipng and fixtures, such as sinks, lavatories, showers, and toilets, supplied with potable water and drained by wastewater piping.~~

"Reverse osmosis" or "RO" means a membrane technology designed to remove salts, low-molecular weight solutes, and all other constituents up to 0.0001 micron in size by applying a pressure in excess of osmotic pressure to force water through a semi-permeable membrane from a region of high solution concentration to a region of lower solution concentration.

"Sanitary defect" means a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a protective barrier that is already in place.

"Sanitary survey" means an evaluation conducted by ~~ODW~~ the department of a waterworks' water supply, facilities, equipment, operation, maintenance, monitoring records, and overall management ~~of a waterworks~~ to ensure the provision of ~~pure~~ potable water.

"SDWA" means the Safe Drinking Water Act (42 USC § 300f et seq.) and its amendments.

"Seasonal waterworks" means a noncommunity waterworks that is not operated as a waterworks on a year-round basis, and starts up and shuts down at the beginning and end of each operating season.

~~"Secondary water source" means any approved water source, other than a waterworks' primary source, connected to or available to that waterworks for emergency or other nonregular use.~~

"Secondary disinfection" means disinfection by chemical oxidants or equivalent agents applied at the entry point or in the distribution system to provide a residual disinfectant in water to maintain water quality and safeguard against chance contamination from permeation, leaching, intrusion, regrowth, or biofilms.

"Sedimentation" means a process for removal of solids before filtration by gravity or separation.

"Service connection" means the point of delivery of finished water to a customer's building service line as follows: from a waterworks to a consumer's water system, fire protection system, [or] irrigation system [,] and to all other points where finished water is delivered through the distribution system to a consumer. [Generally, the service connection occurs at the water meter, or at the distribution main if no water meter is installed, or in the case of an owner of both the waterworks and the building supplied, the point of entry into the building.] Service connections may be permanent, temporary, or emergency.

~~1. If a meter is installed, the service connection is the downstream side of the meter;~~

~~2. If a meter is not installed, the service connection is the point of connection to the waterworks;~~

~~3. When the water purveyor is also the building owner, the service connection is the entry point to the building.~~

~~"Service line sample" means a one liter sample of water, collected in accordance with 12VAC5-590-375 B 2 c, that has been standing for at least six hours in a service line.~~

["Service line" means the pipeline or service pipe between the service connection and the building connection.]

"Sewer" means any pipe or conduit used to convey sanitary sewage, stormwater, or industrial waste streams. Combined sewers convey both stormwater and sanitary sewage.

"Significant deficiency" means any defect in a waterworks' design, operation, maintenance, or administration, as well as the failure or malfunction of any waterworks component; that may cause; or has the potential to cause, an unacceptable risk to health or could affect the reliable delivery of ~~pure~~ potable water to consumers.

"Single-family structure" means, for the purpose of 12VAC5-590-375 B only, a building constructed as a single-family residence that is currently used as either a residence or a place of business.

"Site visit" means a tour of a waterworks by [the] department [staff] or other authorized persons for purposes including assessing and documenting its physical condition, operations, and compliance activities.

"Slow sand filtration" means a process involving passage of ~~raw~~ source water through a bed of sand at low velocity (generally less than 0.4 m/h), resulting in substantial particulate removal by physical and biological mechanisms.

~~"Small waterworks" means, for the purpose of 12VAC5-590-375, 12VAC5-590-405, 12VAC5-590-530 F and 12VAC5-590-550 D only, a waterworks that serves 3,300 persons or fewer.~~

"Standard sample" means that portion of finished drinking water that is examined for the presence of coliform bacteria.

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"SMCL" means the [same as "maximum contaminant level." secondary maximum contaminant level of a contaminant. SMCLs are based on aesthetic qualities related to the public acceptance of drinking water.]

"SOP" means standard operating procedure.

"Source water" means water as it is pumped or otherwise withdrawn from a well, spring, stream, lake or reservoir, or any body of surface water (natural or impounded), and before any treatment.

"Supervisory control and data acquisition" or "SCADA" means a computer-controlled system used by a waterworks to monitor its operations. Typical design features may be specific to individual waterworks and include alarm, response, control, and data acquisition.

"Surface water" means all water open to the atmosphere and subject to surface runoff.

"SUVA" means specific ultraviolet absorption at 254 nanometers (nm), an indicator of the humic content of the water. It is a calculated parameter obtained by dividing a sample's ultraviolet absorption at a wavelength of 254 nm (UV_{254}) [~~(in m⁻¹) (in m⁻¹)~~] by its concentration of ~~dissolved organic carbon (DOC)~~ DOC (in mg/L).

~~"Synthetic organic chemicals" or "SOC" means one of the family of organic manmade compounds generally utilized for agriculture or industrial purposes.~~

"Synthetic organic chemical" or "SOC" means a man-made organic compound, generally utilized for agriculture or industrial purposes. Table 340.2 lists SOC's regulated as contaminants.

"System hazard" means a condition posing an actual, or threat of, damage to the physical properties of the waterworks or a consumer's water system.

~~"Terminal reservoir" means an impoundment providing end storage of water prior to treatment.~~

"TDS" means total dissolved solids.

"TMF" means the technical, managerial, and financial capabilities to operate and maintain a waterworks.

"Too numerous to count" or "TNTC" means that the total number of bacterial colonies exceeds 200 on a 47-mm diameter membrane filter used for coliform detection.

~~"Total effective storage volume" means the volume available to store water in distribution reservoirs measured as the difference between the reservoir's overflow elevation and the minimum storage elevation. The minimum storage elevation is that elevation of water in the reservoir that can provide a minimum pressure of 20 psi at a flow as determined in 42VAC5-590-690 C to the highest elevation served within that reservoir's service area under systemwide maximum daily water demand.~~

"Total organic carbon" or "TOC" means total organic carbon in ~~mg/L~~ [milligrams milligrams] per liter (mg/l) measured using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to two significant figures.

"Total trihalomethanes" or "TTHM" means the sum of the concentrations of the trihalomethanes (THMs) expressed in milligrams per liter (mg/L) and rounded to two significant figures. For the purpose of ~~these regulations, the TTHMs~~ this chapter, TTHM shall mean trichloromethane (chloroform), dibromochloromethane, bromodichloromethane, and tribromomethane (bromoform).

"Transient noncommunity waterworks" or "TNC" means a noncommunity waterworks that is not a nontransient noncommunity waterworks (NTNC). A TNC serves at least 25 persons daily for at least 60 days out of the year.

~~"Transmission main" means a water main whose primary purpose is to move significant quantities of treated water among service areas.~~

"Treatment" means any process that changes the chemical, physical, radiological, or bacteriological quality of water.

~~"Treatment technique requirement" or "TT" means a requirement that specifies for a contaminant a specific treatment technique(s) technology or process demonstrated to the satisfaction of the division department to lead to a reduction in the level of such a specific contaminant sufficient to comply with these regulations this chapter.~~

"Triggered source water monitoring" means monitoring required of any groundwater system as a result of a total coliform-positive sample in the distribution system.

"Trihalomethane" or "THM" means one of the family of organic compounds, named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

~~"Two-stage lime softening" means a process in which chemical addition and hardness precipitation occur in each of two distinct unit clarification processes in series prior to filtration.~~

"Ultrafiltration" or "UF" means a membrane technology designed to remove particles up to 0.01 micron in size.

"Unconsolidated" means loose sediment that has not been compacted, cemented, lithified, or metamorphosed into rock. Sediment may be derived from a sedimentary-type, igneous-type, metamorphic-type rock, which includes clay, silt, sand, gravel, and mixtures of these particle types.

"Uncovered finished water storage facility" means a tank, reservoir, or other facility used to store water that will undergo no further treatment to reduce microbial pathogens (except residual disinfection) and is directly open to the atmosphere.

"Unregulated contaminant" or "UC" means a contaminant for which a monitoring requirement has been established, but for which no MCL or treatment technique requirement has been established.

"USBC" means the Uniform Statewide Building Code (13VAC5-63).

"Used water" means any water supplied by a water purveyor from the waterworks to a consumer's water system after it has passed through the service connection and is no longer under the control of the owner.

"UV" means ultraviolet.

~~"Variance" means a conditional waiver of a specific regulation that is granted to a specific waterworks allowing a waterworks that satisfies the criteria in 12VAC5-590-140 to provide drinking water that does not fully comply with this chapter. A PMCL variance is a variance to a primary maximum contaminant level, or a treatment technique requirement. An operational variance is a variance to an operational regulation or a secondary maximum contaminant level SMCL. Variances for monitoring, reporting and public notification requirements will not be granted.~~

"Virus" means a ~~microbe~~ virus of fecal origin that is infectious to humans by waterborne transmission and must be preemptively inactivated through disinfection before human consumption.

~~"Volatile synthetic organic chemical" or "VOC" means one of the family of manmade organic compounds generally characterized by low molecular weight and rapid vaporization at relatively low temperatures or pressures.~~

"Volatile organic chemical" or "VOC" means an organic compound generally characterized by its low molecular weight and its tendency to vaporize rapidly at relatively low temperatures and pressures. Table 340.2 lists VOCs regulated as contaminants.

"VOSH" means the Virginia Occupational Safety and Health program.

"Waiver" means permission from the department to deviate from the monitoring and reporting requirements in this chapter for a specific contaminant.

"Waterborne disease outbreak" means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a waterworks that is deficient in treatment, as determined by the commissioner or the State Epidemiologist.

~~"Water purveyor" (same as owner).~~

"Water supply" means the source of water that shall have been taken into a waterworks from all including wells, streams, springs, lakes or reservoirs, and other bodies of surface waters (natural or impounded), and the tributaries thereto, and all

~~impounded groundwater, but the.~~ The term "water supply" shall not include any waters above the point of intake of such the waterworks (see Article 2 (§ 32.1-167 et seq.) of Chapter 6 of Title 32.1 of the Code of Virginia).

~~"Water supply main" or "main" means any water supply pipeline that is part of a waterworks distribution system.~~

~~"Water Well Completion Report" means a report form published by the State Water Control Board entitled "Water Well Completion Report," which requests specific information pertaining to the ownership, driller, location, geological formations penetrated, water quantity and quality encountered as well as construction of water wells. The form is to be completed by the well driller.~~

"Water treatment plant" means that portion of a waterworks intended specifically for water treatment; it may include, among other operations, coagulation, sedimentation, filtration, and disinfection.

"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 potable water except the piping and fixtures inside the building where such water is delivered (~~see Article 2 (§ 32.1-167 et seq.) of Chapter 6 of Title 32.1 of the Code of Virginia).~~

~~"Waterworks with a single service connection" means a waterworks that supplies drinking water to consumers via a single service line.~~

"Waterworks business operation plan" means the same as "comprehensive business plan."

"Wholesale waterworks" means a waterworks that treats source water as necessary to produce finished potable water and then delivers some or all of that finished potable water to another waterworks. Delivery may be through a direct connection or through the distribution system of one or more consecutive waterworks.

B. As used in this chapter, the following units of measurement shall use the abbreviations as shown in this subsection:

C – degrees Celsius

CU – color units

ft² – square feet of area

ft/min – feet per minute

ft/sec – feet per second

gpd – gallons per day

gpd/ft² – gallons per day per square foot

gpm – gallons per minute

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gpm/ft – gallons per minute per foot

gpm/ft² – gallons per minute per square foot

in – inches

lb – pounds

lb/day – pounds per day

lb/ft² – pounds per square foot

MFL – million fibers per liter

MGD – million gallons per day

mg/L – milligrams per liter

min – minutes

mJ/cm² – millijoules per square centimeter

mrem – millirem

nm – nanometer (10⁻⁹ meter)

NTU – nephelometric turbidity units

pCi – picocuries

pCi/L – picocuries per liter

ppb – parts per billion, or micrograms per liter ($\mu\text{g/L}$)

ppm – parts per million, or milligrams per liter (mg/L)

ppq – parts per quadrillion, or pictograms per liter (pg/L)

ppt – parts per trillion, or nanograms per liter (ng/L)

psi – pounds per square inch

psig – pounds per square inch gauge

scfm/ft² – standard cubic feet per minute per square foot

μm – micrometers (10⁻⁶ meter or microns)

$\mu\text{g/L}$ – micrograms per liter

$\mu\text{S/cm}$ – microSiemens per centimeter

W/m² – Watts per square meter

Article 2

General Information

12VAC5-590-20. Authority for regulations. (Repealed.)

Article 2 (§ 32.1-5 et seq.) of Chapter 1 of Title 32.1 of the Code of Virginia provides that the State Board of Health has the duty to protect the public health and to ensure that all water supplies destined for public consumption be pure water. In order to discharge that duty, the board is empowered to supervise and regulate all waterworks and water supplies within the state (see Article 2 of Chapter 1 of Title 32.1 of the Code of Virginia).

12VAC5-590-30. Purpose of regulations. (Repealed.)

These regulations have been promulgated by the board to: 1. Ensure that all water supplies destined for public consumption be pure water; 2. Guide the commissioner in his determination of whether a permit for a public water supply or waterworks should be issued; and 3. Assist the owner or his authorized engineer in the preparation of an application, plans, specifications, reports and other data.

12VAC5-590-35. Delegation of authority.

The commissioner, or the commissioner's designee, may perform any act of the board provided under this chapter, except as limited by § 32.1-20 of the Code of Virginia.

12VAC5-590-40. Administration of regulations this chapter.

These regulations are administered by the following parties:

1. ~~State Board of Health, which has responsibility~~ A. The board is responsible for promulgating, amending, and repealing regulations ~~which to ensure a supply of pure potable water.~~

2. ~~State Health Commissioner, who is the executive officer~~ B. The commissioner is vested with all the authority of the State Board of Health with the authority of the board when it is not in session, ~~and~~ subject to such rules and regulations as may be prescribed by the board.

3. ~~Division of Water Supply Engineering, which~~ C. The department is designated as the primary reviewing agent of the board for the purpose of administering this chapter. It examines ~~and passes upon~~ the technical aspects of all applications and plans for waterworks projects ~~prior to the before~~ drafting of a permit for final approval by the ~~State Health Commissioner commissioner.~~ It also has primary responsibility for monitoring waterworks operations to ensure that water supplied ~~to the public is pure consumers is potable~~ water.

4. ~~Central and field offices, which are maintained by the division, the central office is located in Richmond, Virginia. The Office of Water Programs maintains six field offices which are responsible for activities of the division within their service areas. Applications for waterworks permits should be submitted to the appropriate field office. The addresses of the field offices and a description of the areas that they serve are listed in Appendix C.~~

5. ~~Waterworks Advisory Committee, which shall be appointed by the commissioner, shall consist of thirteen appointed members and three ex officio members specified below. The commissioner shall appoint to the Waterworks Advisory Committee one individual each from the following: a member of the Virginia Section American Water Works Association; a member of the Virginia Society of Professional Engineers; a member of the Virginia Water Well Association, Inc.; a member of the Consulting~~

Engineers Council; a water treatment plant operator having a valid license of the highest classification in waterworks issued by the State Board for Waterworks and Wastewater Works Operators; a faculty member of a state university or college whose principal field of teaching is Environmental Engineering; a community waterworks owner; a nontransient noncommunity (NTNC) representative; a representative from Virginia Rural Water Association; a representative from Virginia Water Projects, Inc.; a representative from the Virginia Municipal League; a representative from the Virginia Association of Counties; and a citizen representative. Ex officio members shall consist of the Director, Office of Water Programs, who shall act as chairman; Director, Division of Water Supply Engineering; and Director, Division of Consolidated Laboratory Services or their designees.

Appointed members shall serve at the discretion of the commissioner with staggered terms being of three years in duration. The Waterworks Advisory Committee shall make recommendations to the commissioner regarding waterworks and water supply policies, procedures and programs of the division.

12VAC5-590-45. Waterworks Advisory Committee.

A. A Waterworks Advisory Committee (WAC) shall be formed by the commissioner to ~~peer~~ review ~~and make recommendations regarding~~ the regulatory, policy, and legislative aspects of the department's authorities. ~~Committee WAC~~ members shall consist of industry professionals employed outside the department with longstanding expertise or vested interest in waterworks operations and represent a diverse group of stakeholders. Members shall be experts in the fields of water treatment technologies, public health, water quality, economics, environmental science, public utilities, community development, or industry regulations. A minimum of nine persons shall be appointed to the committee by the commissioner.

B. The WAC will convene at least quarterly.

C. WAC meetings will be considered public meetings. Notice of scheduled meetings will be posted on the Virginia Regulatory Town Hall at least ~~seven three~~ working days before the date of the meeting. Meeting minutes will be posted to the Virginia Regulatory Town Hall within 10 working days after the meeting.

D. Each member of the WAC shall hold office for a term of three years, except that:

1. With approval by the commissioner, members are eligible for reappointment to consecutive terms.
2. Each member of the WAC serves at the pleasure of the commissioner.

E. The commissioner shall appoint the chair of the WAC.

F. The WAC shall have a ~~member of the~~ department ~~staff member~~ serve as secretary.

12VAC5-590-50. Application of ~~regulations this chapter~~ to waterworks and water supplies in operation or planned prior to before ~~the effective date of the regulations June 23, 2021~~.

Waterworks and water supplies which were in operation prior to the effective date of the regulations may continue operation if they comply with the operational regulations set forth in Part II. Operation permits, which will be in addition to all permits previously received, will be issued to such waterworks as soon as practicable after the effective date of these regulations.

A. Waterworks and water supplies unable to comply with Part II of this chapter may be issued the appropriate variances and/or exemptions in conjunction with the operation permit to allow continued operation during the period of adjustment. Any variances and/or exemptions will be issued in accordance with the procedures contained in Article 3 of Part I of this chapter ~~The owner shall comply with Part II ~~(12VAC5-540-340 et seq.)~~ (12VAC5-590-340 et seq.)~~ of this chapter unless a variance or exemption is issued by the commissioner.

B. Compliance with design criteria set forth in Parts ~~Part III and IV~~ of this chapter is necessary for waterworks modification limited to modifications to existing waterworks and for all construction of new waterworks commenced after the effective date of these revised regulations ~~(insert effective date of this chapter)~~ June 23, 2021. Portions of waterworks not being modified are not required to comply with the design criteria of Part III (12VAC5-590-640 et seq.). Waterworks construction or modification is deemed to be commenced for purposes of this section upon receipt of final plans and specifications by the field office issuance of the construction permit.

C. Compliance with the requirements set forth in Parts ~~Part III and IV~~ of this chapter including those for materials, construction methods, and disinfection, etc., is necessary for all repairs to pipes, tanks, pumps, and appurtenances ~~which~~ that are part of a waterworks.

D. Volatile Synthetic Organic Chemicals (VOCs) and Unregulated Contaminants (UCs) Regulations are effective immediately for those community and NTNC waterworks which serve more than 10,000 persons. The VOC and UC regulations are effective immediately for community and NTNC waterworks serving 3,300 to 10,000 persons. The VOC and UC regulations become effective on January 1, 1991, for community and NTNC waterworks serving less than 3,300 persons. (See Table 2.7.)

E. The Lead and Copper Regulations establish a treatment technique that includes requirements for corrosion control treatment, water supply (source water) treatment, lead service line replacement, and public education. These requirements are triggered, in some cases, by lead and copper action levels measured in samples collected at consumers' taps. Unless

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~~otherwise indicated, each of the provisions of 12VAC5-590-375, 12VAC5-590-405, 12VAC5-590-530 F and 12VAC5-590-550 D applies to community waterworks and nontransient noncommunity waterworks. The requirements set forth in 12VAC5-590-375, 12VAC5-590-530 D and 12VAC5-590-550 D shall take effect on July 7, 1991.~~

12VAC5-590-55. Relationship of this chapter to the Uniform Statewide Building Code.

A. This chapter governs waterworks facilities from any source water to all service connections.

B. In accordance with § 36-98 of the Code of Virginia and the USBC, the USBC governs the construction of buildings and structures, including plumbing systems and backflow prevention [methods]. The USBC also governs the water service piping from the service connection to a building or structure.

C. Notwithstanding subsections A and B of this section, this chapter shall govern:

1. Water treatment, storage, pumping facilities, and water piping that are part of a waterworks and housed in any building or structure; and

2. Backflow prevention assemblies or elimination methods, or both, installed for containment and located downstream from the service connection, including where located in any building or structure.

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12VAC5-590-60. Compliance with the Administrative Process Act. (Repealed.)

~~The provisions of the Administrative Process Act (Chapter 1.1:1 of Title 9) and Title 32.1 of the Code of Virginia govern this chapter. All procedures outlined below are in addition to, or in compliance with, the requirements of that Act.~~

12VAC5-590-70. Powers and procedures.

~~The board reserves the right to authorize utilize any lawful procedure for the enforcement of this chapter that is consistent with the provisions set forth herein and the provisions of Title 32.1 of the Code of Virginia.~~

12VAC5-590-80. Procedure. (Repealed.)

~~Regulations for the operations, construction, or modification of a waterworks or water supply are established, amended, or repealed only in accordance with the Administrative Process Act.~~

12VAC5-590-100. Exception; emergency regulations.

~~If the establishment of a regulation is necessary for the preservation of public health, safety, or welfare to meet any emergency not provided for by this chapter, the board or commissioner acting on behalf of the board when it is not in~~

~~session may immediately promulgate and adopt the necessary regulation by complying with the procedures set forth in either § 2.2-4011 or § 32.1-13 of the Code of Virginia.~~

12VAC5-590-110. Enforcement.

~~All waterworks must be operated in compliance with the requirements as set forth in this chapter as follows:~~

~~1. A. Notice. Whenever the ~~commissioner, his appointed representative, or the division department~~ has reason to believe that a violation of Title 32.1 ~~of the Code of Virginia or of any section of this chapter~~ has may have occurred or is may be occurring, the ~~division department~~ shall ~~so~~ notify the alleged violator. ~~Such~~ The notice shall (i) be in writing shall; (ii) cite the statute, regulation or regulations that are allegedly being violated, and shall; (iii) state the facts which that form the basis for believing that the violation has may have occurred or is may be occurring; and (iv) include information on the process for obtaining a final decision or fact finding from the department on whether or not a violation has occurred. A notice of violation This notification is not an official finding, case decision, or adjudication but may be accompanied by include a request that certain to the owner to respond timely and to take specific corrective action be taken by a stated deadline.~~

~~2. B. Orders. Pursuant to § 32.1-26 of the Code of Virginia, the ~~commissioner board~~ may issue orders to require any owner to comply with the provisions of ~~Title 32.1 of the Code of Virginia or this chapter~~ any law administered by it, the commissioner, or the department; any regulations promulgated by the board, including any section of this chapter; or any case decision of the board or commissioner. The order shall be signed by the commissioner and commissioner, acting on behalf of the board when it is not in session, will sign the order, and the order may require:~~

- ~~a. 1. The immediate cessation or correction of the violation;~~
- ~~b. 2. The acquisition or use of additional equipment, supplies, or personnel to ensure that the violation does not recur;~~
- ~~c. 3. The submission of a plan to prevent future violations;~~
- ~~d. 4. The submission of an application for a variance or exemption;~~
- ~~e. 5. Any other corrective action deemed necessary for proper compliance with ~~the~~ this chapter; or~~
- ~~f. Division review 6. An evaluation and approval, if appropriate, of the required submissions, if appropriate.~~

~~3. C. Compliance with effective orders and this chapter. The commissioner may act as the agent of the board to enforce all effective orders and this chapter. Should any owner fail to comply with any effective order or this chapter, the commissioner may:~~

~~a. 1. Institute a an administrative proceeding to revoke the owner's permit in accordance with 12VAC5-590-320 and § 32.1-174 of the Code of Virginia or other appropriate administrative remedies;~~

~~b. Apply to an appropriate court for an injunction or other legal process to prevent or stop any practice in violation of the order;~~

~~e. 2. Request attorney for the Commonwealth to bring a criminal action criminal prosecution by a Commonwealth's attorney with the appropriate jurisdiction in accordance with § 32.1-27 of the Code of Virginia;~~

~~d. 3. Request civil action by the Attorney General to bring an action for impose a civil penalty, injunction seek injunctive relief, or other appropriate remedy legal remedies pursuant to §§ 32.1-27 and 32.1-176 of the Code of Virginia; or~~

~~e. 4. Do any combination of the above subdivision C 1, C 2, or C 3 of this section.~~

4. D. Special order. Pursuant to § 32.1-175.01 of the Code of Virginia, the commissioner may, after an informal fact-finding proceeding held in accordance with § 2.2-4019 of the Code of Virginia, issue a special order that may include a civil penalty against an owner who violates the Public Water Supplies Law, §§ 32.1-167 through 32.1-176 of the Code of Virginia, this chapter, or any order of the board.

E. Graduated enforcement actions. Nothing in this section shall prevent the commissioner or the division from taking action prior to issuing an order or department from making efforts to obtain voluntary compliance through conference, warning, or other appropriate means before issuance of an order, instituting an administrative proceeding, or requesting an action by a Commonwealth's Attorney or the Attorney General.

~~5. Hearing as a matter of right (see 12VAC5-590-180).~~

12VAC5-590-115. Administrative proceedings.

A. Types of administrative proceedings. Administrative proceedings before the board, the commissioner, or the commissioner's designee, shall include the following forms depending upon the nature of the controversy and the interests of the named party involved.

1. An informal fact-finding proceeding is an informal conference between the department [staff] and the named party held in accordance with § 2.2-4019 of the Code of Virginia.

2. A formal hearing is an adjudicatory proceeding before the commissioner or a designated hearing officer held in accordance with § 2.2-4020 of the Code of Virginia.

B. Request for administrative proceeding. The named party may request an administrative proceeding by sending a request in writing to the department.

C. Administrative proceeding as a matter of right. The named party whose rights, duties, or privileges have been or may be affected by any action or inaction of the board, commissioner, or department in the administration of this chapter, has a right to both an informal fact-finding proceeding and a formal hearing; however, the commissioner reserves the right to require participation in an informal fact-finding proceeding before granting the request for a formal hearing.

12VAC5-590-120. Emergency Orders orders.

A. The commissioner may, pursuant to § 32.1-175 of the Code of Virginia, issue emergency orders in any case where there is an imminent danger to the public health resulting from the operation of any waterworks or the source of a water supply.

B. An emergency order may be communicated by the best practical notice under all the circumstances and is effective immediately upon receipt. ~~The order may state any requirements necessary to remove the danger to the public health, including the immediate cessation of the operation of the waterworks or the use of any water supply. The commissioner may order the immediate cessation of the operation of any waterworks or the use of any water supply or the correction of any condition causing the production or distribution of any water constituting an imminent danger to the public health and welfare.~~

C. Violation of an emergency order is subject to civil enforcement and is punishable as a criminal misdemeanor.

D. Emergency orders shall be effective for a period determined by the commissioner.

E. Emergency orders may be appealed in accordance with the provisions of the Administrative Process Act APA.

12VAC5-590-125. Chronically noncompliant waterworks.

~~A. The commissioner may identify a waterworks as chronically noncompliant (CNC) whenever he determines that:~~

- ~~1. The waterworks has a documented performance record that demonstrates the waterworks is not a dependable supplier of potable water;~~
- ~~2. The owner has shown inadequate technical, financial, or managerial capabilities to provide potable water;~~
- ~~3. The owner has failed to comply with an order issued by the commissioner;~~
- ~~4. The owner has abandoned the waterworks and has discontinued providing potable water to the consumers; or~~
- ~~5. The owner is subject to a forfeiture order pursuant to § 32.1-174.1 of the Code of Virginia.~~

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~~B. Once A.~~ If the commissioner [or department] determines that a waterworks is ~~CNC a chronically noncompliant waterworks, as defined in § 32.1-167 of the Code of Virginia,~~ he then the commissioner shall issue an order to the owner containing a schedule to bring the waterworks into compliance with this chapter and require the submission of a comprehensive business plan pursuant to § 32.1-172 B of the Code of Virginia waterworks business operation plan. If capital improvements are necessary to bring the waterworks into compliance, and the owner does not possess sufficient assets to make the necessary improvements, the order shall require the owner to make annual, good faith applications for loans, grants, or both, to appropriate financial institutions to secure funding for such improvements, until ~~such the~~ the improvements are complete and operational. The owner shall provide a copy of the order to each consumer ~~with a copy of the compliance schedule~~ within 10 calendar days of issuance of the order.

~~C. The owner shall provide the commissioner a copy of the notice order was distributed and a signed certification of the distribution completion date within five calendar days of completing the notification required in subsection B of this section.~~

B. Within 15 calendar days of issuance of the commissioner's order, the owner shall certify in writing that a copy of the order was distributed to each consumer within the 10-day period specified in subsection A of this section.

~~D. C.~~ The commissioner shall send a copy of the order to the chief administrative officer of the locality in which the waterworks is located for appropriate action under § 15.2-2146 of the Code of Virginia.

~~E. D.~~ In addition to the provisions of § 32.1-27 of the Code of Virginia, any owner who violates this chapter, an order of the board, or a statute governing public water supplies shall be subject to those civil penalties provided in §§ 32.1-167 through 32.1-176 Article 2 (§ 32.1-167 et seq.) of Chapter 6 of Title 32.1 of the Code of Virginia.

12VAC5-590-130. Suspension of this chapter.

If, in the case of a ~~manmade man-made~~ or natural disaster, the commissioner ~~finds determines~~ that certain regulations cannot be complied with and that the public health is better served by access to semiregulated or nonregulated water supplies than by the closing of those affected supplies ~~he may suspend, then the application enforcement of the chapter those regulations may be suspended for specific affected localities designated waterworks and institute a provisional regulatory scheme instituted until the disaster is abated the conditions that brought about the suspension have abated.~~

12VAC5-590-140. Variances.

A. The commissioner may grant a variance to a ~~primary maximum contaminant level (PMCL), a PMCL, SMCL,~~ treatment technique requirement, or an operational regulation,

~~or a secondary maximum contaminant level (SMCL)~~ by following the appropriate procedures set forth in this section.

1. Requirements for a variance. A ~~PMCL~~ variance may be granted to a waterworks from any requirement ~~respecting with respect to~~ a PMCL or SMCL upon a finding that:

- a. Alternative ~~sources of water supplies~~ are not reasonably available to the waterworks;
- b. The characteristics of the ~~raw water sources which are source water that is~~ reasonably available to the waterworks ~~prevent prevents~~ the waterworks from meeting the PMCL or SMCL requirements, and on condition that the waterworks installs the ~~best available technology BAT,~~ treatment techniques, or other means, ~~which that~~ the [~~commissioner department~~] finds are generally available (taking costs into consideration); and
- c. The granting of a variance will not result in an unreasonable risk to the health of persons served by the waterworks.

2. The commissioner may grant a ~~one or more~~ treatment technique ~~variance variances~~ to a waterworks from any requirement of a specified treatment technique upon a finding that the waterworks applying for the variance has demonstrated that ~~such the~~ treatment technique is not necessary to protect the health of persons because of the nature of the ~~raw water source of such source water at the~~ waterworks.

3. The commissioner may grant a variance to a waterworks from an operational regulation ~~or a SMCL~~ if a thorough investigation reveals that the hardship imposed outweighs the benefits that may be received by the public and that the granting of ~~such the~~ variance does not subject the public to unreasonable health risks. ~~An operational variance may not be issued from monitoring, reporting, or public notification requirements.~~

4. An operational variance may not be issued from monitoring, reporting, or public notification requirements.

B. Application Request for a variance. Any owner may apply in writing for a variance. The ~~application should request shall~~ be sent to the ~~appropriate field office department~~ for evaluation. All ~~applications requests~~ for a variance shall include the following:

1. A citation of the regulation from which a variance is requested;
2. The nature and duration of the variance requested;
3. Relevant analytical results of water quality sampling of the waterworks, including results of relevant tests conducted pursuant to the requirements of this chapter;
4. A statement of the hardship to the owner and the anticipated impacts to the public health and welfare if a variance were granted;

5. Suggested conditions that might be imposed on the granting of a variance that would limit its detrimental impact on public health and welfare;

6. Other information, if any, believed by the applicant owner to be pertinent to the application request; and

7. ~~Such~~ Any other information as may be required by the commissioner to make the determination.

~~8. C.~~ For any application request made for a PMCL variance, the applicant owner shall also include:

~~a. Explanation~~ 1. An explanation in full and evidence of the best available treatment technology and techniques BAT;

~~b. Economic~~ 2. The economic and legal factors relevant to the owner's ability to comply;

~~c. Analytical~~ 3. The analytic results of raw water source water quality relevant to the variance request;

~~d. 4.~~ A proposed compliance schedule including the date each step toward compliance will be achieved. ~~Such~~ The schedule shall include as a minimum the following dates:

~~(1) Date~~ a. The date by which arrangement for an alternative raw water source source water or improvement of an existing raw water source source water will be completed;

~~(2) Date~~ b. The date of initiation of the connection of the alternative raw water source source water or improvement of the existing raw water source source water; and

~~(3) Date~~ c. The date by which final compliance is to be achieved.

~~e. 5.~~ A plan for the provision of safe drinking potable water in the case of an excessive rise in the contaminant level for which the variance is requested; ~~and~~

~~f. 6.~~ A plan for interim control measures during the effective period of the variance; ~~and~~

7. A plan for notifying the consumers at least once every three months, or more frequently if determined by the commissioner, that the waterworks is operating under the conditions of a variance.

~~9. D.~~ For any application request made for a treatment technique variance, the applicant owner must also include a statement that monitoring and other reasonable requirements prescribed by the commissioner as a condition to the variance will be performed.

~~C. E.~~ Consideration of a variance application request.

1. The commissioner shall act on any variance application request submitted pursuant to subsection B of this section within 90 days of receipt of the application submittal.

2. The commissioner will consider comments received during the comment period and testimony in the record of a public hearing held before making a determination.

3. In the commissioner's consideration of whether the waterworks is unable to comply with a contaminant level required by this chapter (PMCL variance) because of the nature of the raw water source source water, the commissioner shall consider such factors as the following:

a. The availability and effectiveness of treatment methods BAT for which the variance is requested; and

b. Cost The cost and other economic considerations such as implementing treatment, improving the quality of the source water, or using an alternate source.

~~3. 4.~~ In the commissioner's consideration of whether a waterworks should be granted a variance to a required treatment technique because ~~such the~~ the treatment is unnecessary to protect the public health (~~treatment technique variance~~), the commissioner shall consider such factors as the following:

a. Quality of the source water source including water quality data and pertinent sources of pollution; ~~and~~

b. Source protection measures employed by the waterworks.

4. 5. In the commissioner's consideration of whether a waterworks should be granted a variance to a required operational procedure ~~or SMCL (operational variance)~~, the commissioner shall consider such factors as the following:

a. The effect that such a variance would have on the adequate operation of the waterworks, including operator safety (in accordance with Virginia Occupational Safety and Health laws); in accordance with VOSH laws and regulations;

b. The cost and other economic considerations imposed by this requirement; and

c. The effect that such a variance would have on the protection of the public health.

~~D. F.~~ Disposition of a variance application request.

1. The commissioner may reject any application request for a variance by sending a rejection notice to the applicant. The rejection notice shall be in writing and shall state the reasons for the rejection. A rejection notice constitutes a case decision. The applicant has the right to petition for a hearing within 60 days of the date of the rejection to challenge the rejection pursuant to 12VAC5-590-160 and 12VAC5-590-180. If the commissioner proposes to deny the variance, the owner shall be provided with an opportunity for an informal fact-finding proceeding as provided in § 2.2-4019 of the Code of Virginia.

2. If the commissioner grants the variance, the applicant shall be notified in writing of this decision. Such The notice shall identify the variance, the waterworks covered, and

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shall specify the period of time for which the variance will be effective.

a. For a PMCL variance as specified in subdivision A 1 of this section, ~~such the~~ notice shall provide that the variance will be terminated when the waterworks comes into compliance with the applicable regulation and may be terminated upon a finding by the commissioner that the waterworks has failed to comply with any requirements of a final schedule issued pursuant to subdivision ~~D F~~ 3 of this section.

b. For a treatment technique variance as specified in subdivision A 2 of this section, ~~such the~~ notice shall provide that the variance may be terminated at any time upon a finding by the commissioner that the nature of the ~~raw water~~ source water is such that the specified treatment technique for which the variance was granted is necessary to protect the public health or upon a finding that the waterworks has failed to comply with monitoring and other requirements prescribed by the commissioner as a condition to the granting of the variance.

c. For an operational variance as specified in subdivision A 3 of this section, ~~such the~~ notice shall provide that the variance will be terminated when the waterworks comes into compliance with the applicable regulation and may be terminated upon a finding by the commissioner that the waterworks has failed to comply with any requirements or schedules issued in conjunction with the variance. The effective date of the operational variance shall be the date of its issuance. A public hearing is not required before the issuance of an operational variance.

3. Schedules pursuant to PMCL and treatment technique variances:

a. The proposed schedule for compliance shall specify dates by which steps ~~towards toward~~ compliance are to be taken, including where applicable:

(1) Date by which arrangement for ~~an the~~ alternative ~~water~~ source water or improvement of the existing ~~raw water~~ source water will be completed;

(2) Date of connection to the alternative ~~raw water~~ source water or improvement of the existing ~~raw water~~ source water; and

(3) Date by which final compliance is to be achieved.

b. If the waterworks has no access to an alternative ~~raw water~~ source water and can effect or anticipate no adequate improvement of the existing ~~raw water~~ source water, then the proposed schedule may specify an indefinite time period for compliance until a new and effective treatment technology is developed, at which time a new compliance schedule shall be prescribed by the commissioner.

c. The schedule for implementation of interim control measures during the period of variance shall specify interim treatment techniques, methods, and equipment and

dates by which steps toward meeting the interim control measures are to be met.

d. The schedule shall be prescribed by the commissioner at the time the variance is granted.

e. For a PMCL variance specified in subdivision A 1 of this section, the commissioner shall propose a schedule for:

(1)- Compliance (including increments of progress) by the waterworks with each contaminant level requirement covered by the variance; and

(2)- Implementation by the waterworks of such control measures as the commissioner may require for each contaminant level covered by the variance.

~~E. G.~~ Public hearings on PMCL and treatment technique variances and their schedules.

1. Notice of a public hearing shall be provided before a variance and schedule proposed by the commissioner pursuant to subsection ~~D F~~ of this section may take effect. A notice given pursuant to ~~the preceding sentence~~ this subsection may cover the granting of more than one variance and a public hearing held pursuant to such notice shall include each of the variances covered by the notice.

2. Notice of a public hearing on ~~an application a request~~ for a variance and its schedule shall be advertised in at least one major newspaper of general circulation in the region in which the waterworks is located. The notice shall include a summary of the proposed variance and its schedule and shall contain the time, date, and place of the public hearing. If the schedule exceeds five years from the date of the variance, then the rationale for the extended compliance schedule shall be discussed in the notice.

~~F. H.~~ Issuance of variance.

1. Within 30 days after the public hearing, the commissioner shall, taking into consideration information obtained during such hearing, revise the proposed variance as necessary and prescribe the final schedule for compliance and interim measures for the waterworks granted a variance. If the schedule for compliance exceeds five years from the date of issuance of the variance, then the commissioner shall document the rationale for the extended compliance schedule.

2. ~~Such~~ The compliance schedule shall establish the timetable by which the waterworks shall comply with each contaminant level and treatment technique requirement prescribed by this chapter. Such schedule shall also consider if the waterworks is to become part of a regional waterworks. ~~Such~~ The compliance schedule shall provide the shortest practicable time schedule under the circumstances.

~~G. I.~~ Posting of variances. All variances granted to any waterworks are nontransferable. Each variance must be attached to the permit of the waterworks to which it is granted.

Each variance is a condition to that permit and is revoked when the permit is revoked.

~~H. J.~~ No variances shall be granted to 12VAC5-590-380, ~~12VAC5-590-400, or 12VAC5-590-420,~~ 12VAC5-590-388, 12VAC5-590-395, or 12VAC5-590-411.

12VAC5-590-150. Exemptions.

A. The commissioner may grant an exemption to any ~~primary maximum contaminant level (PMCL)~~ PMCL or treatment technique requirement by following the procedures set forth in this ~~subsection~~ section. An exemption may be granted to a waterworks ~~from any requirement with respect to a PMCL or treatment technique requirement~~ upon a finding that:

1. The waterworks [must be ~~is~~] unable to implement measures to develop an alternative [~~supply of source~~] of water [supply];
2. The waterworks cannot reasonably make management or restructuring changes that will result in compliance or improve the quality of the drinking water;
3. Due to compelling factors (which may include economic factors), the waterworks is unable to comply with ~~such~~ such contaminant level or treatment technique ~~requirement~~ requirements;
4. The granting of the exemption will not result in an unreasonable risk to the health of persons served by the waterworks;
5. The waterworks was in operation on the effective date of such contaminant level or treatment technique ~~requirement~~ requirements; and
6. The waterworks has not been granted a variance.

~~B. Application for exemption.~~ A waterworks The owner may request an exemption for a waterworks by submitting a written application request to the ~~appropriate field office~~ department for evaluation. All ~~applications~~ requests for an exemption shall include the following information:

1. A citation to the regulation from which the exemption is requested;
2. ~~Nature~~ The nature and duration of the exemption requested;
3. ~~Relevant~~ The relevant analytical results of water quality sampling of the waterworks, including results of relevant tests conducted pursuant to the requirements of this chapter;
4. ~~Explanation~~ An explanation of the compelling factors such as time or economic factors ~~which~~ that prevent such waterworks from achieving compliance;
5. Other information believed by the ~~applicant~~ owner to be pertinent to the ~~application~~ request;

6. A proposed compliance schedule, including the date when each step toward compliance will be achieved; and

7. ~~Such other~~ Other information as may be required by the commissioner to make the determination.

C. Consideration of an exemption ~~application~~ request.

1. The commissioner shall act on any exemption ~~application~~ request submitted pursuant to subsection B of this section within 90 days of receipt of the ~~application~~ request.

2. In the commissioner's consideration of whether the waterworks is unable to comply due to compelling factors, the commissioner shall consider such factors as the following:

- a. ~~Construction~~ The construction, installation, or modification of treatment equipment or systems;
- b. The time needed to put ~~into operation~~ a new water treatment facility plant into operation to replace an existing ~~waterworks which~~ water treatment plant that is not in compliance;
- c. The economic feasibility of compliance;
- d. The availability of Drinking Water State Revolving Fund, a department program to assist waterworks in achieving the public health protection objectives of the SDWA, assistance or any other federal or state program that is reasonably likely to be available within the period of the exemption;
- e. The consideration of rate increases, accounting changes, the appointment of a licensed operator under the state operator's licensure program, or contractual agreements for joint operation with one or more waterworks;
- f. The activities consistent with Virginia's capacity development strategy to help the waterworks acquire and maintain technical, financial, and managerial capacity to come into compliance;
- g. The ownership changes, physical consolidation with another waterworks, or other feasible and appropriate means of consolidation that would result in compliance; and
- h. The availability of an alternative source of drinking water, including the feasibility of partnerships with neighboring waterworks, as identified by the waterworks or by the commissioner consistent with the capacity development strategy.

D. Disposition of an exemption ~~application~~ request.

1. The commissioner may reject any ~~application~~ request for an exemption by sending a rejection notice to the ~~applicant~~ owner. The rejection notice shall be in writing and shall state the reasons for the rejection. A rejection notice constitutes a case decision. ~~The applicant has the right to petition for a hearing within 60 days of the date of the rejection to challenge the rejection pursuant to 12VAC5-590-160 and~~

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~~12VAC5-590-180.~~ If the commissioner proposes to deny the exemption, then the owner shall be provided with an opportunity for an informal fact-finding proceeding as provided in § 2.2-4019 of the Code of Virginia.

2. If the commissioner grants the exemption, ~~then~~ the ~~applicant~~ owner shall be notified in writing of this decision. ~~Such~~ The notice shall identify the exemption and the waterworks covered and shall specify the termination date of the exemption. ~~Such notice shall provide that the exemption~~ Exemptions shall be terminated when the waterworks comes into compliance with the applicable regulation and may be terminated upon a finding by the commissioner that the waterworks has failed to comply with any requirements of a final schedule issued pursuant to subsection F of this section.

3. The commissioner shall propose a schedule for:

- a. Compliance (including increments of progress) by the waterworks with each contaminant level and treatment technique requirement covered by the exemption; and
- b. Implementation by the waterworks of such control measures as the commissioner may require for each contaminant level and treatment technique requirement covered by the exemption.

4. The schedule shall be prescribed by the commissioner at the time the exemption is granted.

5. For a waterworks that serves a population of not more than 3,300 persons and that needs financial assistance for the necessary improvements under the initial compliance schedule, an exemption granted by the commissioner may be for one or more additional two-year periods, but not to exceed a total of six additional years, only if the commissioner establishes that the waterworks is taking all practicable steps to meet the requirements of the exemption and the established compliance period. The commissioner will document the findings in granting an extension under this subdivision.

E. Public hearings on exemptions and their schedules.

1. Notice of a public hearing shall be provided before an exemption and schedule proposed by the commissioner pursuant to subsection D of this section may take effect. ~~A~~ Such notice given pursuant to the preceding sentence may cover the granting of more than one exemption, and a public hearing held pursuant to ~~such~~ the notice shall include each of the exemptions covered by the notice.

2. Notice of a public hearing on ~~an application~~ a request for an exemption and its schedule shall be advertised in at least one major newspaper of general circulation in the region in which the waterworks is located.

3. The notice shall include a summary of the proposed exemption and its schedule and shall contain the time, date, and place of the public hearing.

F. Issuance of exemption.

1. Within 30 days after the public hearing, the commissioner shall, taking into consideration information obtained during ~~such~~ the hearing, revise the proposed exemption as necessary and prescribe the final compliance schedule ~~for compliance~~ and interim measures ~~for before issuing the exemption to~~ the waterworks ~~granted an exemption~~.

2. ~~Such~~ The schedule shall establish the timetable by which the waterworks shall comply with each contaminant level and treatment technique requirement prescribed by this ~~chapter~~ section. If the schedule for compliance exceeds five years from the date of issuance of the exemption, ~~then~~ the commissioner shall document the rationale for the extended compliance period. Such schedule shall also consider if the waterworks is to become part of a regional waterworks.

G. Posting of exemptions. All exemptions granted to any waterworks are nontransferable. Each exemption must be attached to the operation permit of the waterworks to which it is granted. Each exemption is a condition to that permit and is revoked when the permit is revoked.

H. No exemption shall be granted to 12VAC5-590-380, ~~12VAC5-590-400, or 12VAC5-590-420-B-1-b [;]~~ 12VAC5-590-388, or 12VAC5-590-395.

12VAC5-590-160. Types of hearings. (Repealed.)

~~Hearings before the board, the commissioner, or their designees shall include any of the following forms depending upon the nature of the controversy and the interests of the parties involved.~~

~~1. An informal hearing is a meeting with the district engineer and field director and held in accordance with § 9-6.14:11 of the Code of Virginia. The field director may consider all evidence presented at the meeting which is relevant to the issue in controversy. Presentation of evidence, however, is entirely voluntary. The field office has no subpoena power. No verbatim record will be taken at the informal hearing, but the field director may make preliminary findings of fact, and may submit a copy of those preliminary findings, with recommendations, to the commissioner and or division director for review. A copy of the findings shall be mailed to the appellant.~~

~~2. The adjudicatory hearing is a formal, public, adjudicatory proceeding before the commissioner or a designated hearing officer held in conformance with § 9-6.14:12. Pursuant to the hearings process:~~

~~a. A Notice which states the time, place, and issues involved in the prospective hearing shall be sent to parties requesting the hearing by certified mail at least 15 calendar days before the hearing is to take place;~~

~~b. A record of the hearing will be made by a court reporter or other approved means. A copy of the transcript of the hearing, if transcribed, will be provided within a~~

reasonable time to any person upon written request and payment of the cost. If the record is not transcribed, then the cost of preparation of the transcript will be borne by the party requesting the transcript;

e. All interested parties may attend the hearing and present evidence, expert or otherwise, that is material and relevant to the issues in controversy. The admissibility of evidence shall be in accordance with the Administrative Process Act. All parties may be represented by counsel;

d. The commissioner or hearing officer, pursuant to § 9-9.14:13 of the Code of Virginia, may issue subpoenas for the attendance of witnesses and the production of books, papers, maps, and records. The failure of a witness without legal excuse to appear or to testify or to produce documents may be reported by the commissioner to the appropriate circuit court; and

e. The commissioner may designate a hearing officer or subordinate to conduct the hearing, as provided in § 9-6.14:12 of the Code of Virginia, and to make written recommended findings of fact and conclusions of law to be submitted for review and final decision by the commissioner. The final decision of the commissioner shall be reduced to writing and will contain the explicit findings of fact upon which his decision is based. Copies of the decision shall be delivered to the owner affected by it. Notice of a decision will be served upon the parties and become a part of the record. Service may be by personal service or certified mail, return receipt requested.

3. A regulatory hearing is a public meeting of the board which is held for the purpose of adopting, amending, or repealing rules and regulations. A regulatory hearing requires that:

a. A notice shall be published, in at least one newspaper of general circulation in the commonwealth, not less than 60 days prior to the day on which the regulatory hearing is to be held. Such notice shall state the time, place, and nature of the hearing and the express terms or an informative survey of the rules that are to be adopted, amended, or repealed;

b. All interested persons may be present at the hearing and may present comments, arguments, objections, and evidence which concern the proposed rules; and

c. The board may adopt, repeal, or amend any rule or regulation which was included in the general notice published prior to the meeting. Rules and regulations may be adopted in the form in which they were described in the notice, or as amended at the hearing, provided the amendments do not alter the main purpose of the rule or regulation.

12VAC5-590-170. Request for hearing. (Repealed.)

Any person may request a hearing by sending a request, in writing, to the appropriate field office or the central office.

12VAC5-590-180. Hearing as a matter of right. (Repealed.)

Any person whose rights, duties or privileges have been or may be affected by any action or inaction of the board, its agents, or deputies in the administration of this chapter, shall have a right to both an informal and an adjudicatory hearing; however, the commissioner reserves the right to require participation in an informal hearing before granting the request for a full adjudicatory hearing.

12VAC5-590-190. Permits.

A. No owner or other person may cause or allow any waterworks to be operated in the Commonwealth without a written operation permit issued by the commissioner.

B. No owner or other person shall cause or allow the construction or change in the manner of transmission, storage, purification, treatment, or distribution of water (including the extension of water pipes for the distribution of water) at any waterworks or water supply in the Commonwealth without a written construction permit or a general permit for distribution mains from the commissioner. Furthermore, no owner or other person shall cause or permit any waterworks or water supply to be operated without a written operation permit issued by the commissioner which authorizes the operation of the waterworks or water supply. Conditions may be imposed on the issuance of any permit, and no waterworks or water supply may be constructed, modified, or operated in violation of these conditions.

C. Construction permits may not be required for the extension of water distribution piping having a diameter of eight inches or less and serving less than 15 connections (see § 32.1-172 A of the Code of Virginia).

D. Individual construction permits for distribution mains are not required for waterworks that obtain a general permit (see 12VAC5-590-300).

E. Conditions may be imposed on the issuance of any permit, and no waterworks may be constructed, modified, or operated in violation of these conditions.

12VAC5-590-200. Procedure for obtaining a construction permit.

A. Construction permits are issued by the Commissioner commissioner, but all requests for a construction permit are directed initially to the Field Office department. The procedure for obtaining the a construction permit includes the following steps:

- (i) the submission of an application, (ii) a preliminary engineering conference, (iii) the submission of an engineer's report (optional at the discretion of the Field Director), and, (iv) the submission of plans, specifications, design criteria and other data in the number requested by the Division.

A. An application for a permit shall be submitted by the owner or authorized agent requesting permission to establish,

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construct, expand, modify, and/or operate a waterworks or water supply. The application shall clearly indicate whether the affected water supply is a community, nontransient noncommunity, or noncommunity waterworks.

B. A preliminary conference with the Division's appropriate District Engineer will be held. The applicant's engineer shall be prepared to set forth the water supply problems and the proposed solution in such a manner as to support his conclusions and recommendations.

C. The engineer's report and preliminary plans for waterworks shall present the following information where applicable:

1. General information—The report shall include:
 - a. A description of any existing waterworks and sewerage facilities.
 - b. Identification of the municipality or area served.
 - c. The name and mailing address of the owner.
2. Extent of waterworks system—The report shall include:
 - a. A description of the nature and extent of the area to be served.
 - b. Provisions for extending the waterworks system to include additional areas.
 - c. An appraisal of the future requirements for service, including existing and potential industrial, commercial, institutional and other water supply needs.
3. Alternate plans—Where two or more solutions exist for providing public water supply facilities, each of which is feasible and practicable, the report shall discuss the alternate plans and give reasons for selecting the one recommended, including financial considerations.
4. Soil, groundwater conditions, and foundation problems—The report shall include:
 - a. A description of the character of the soil through which water mains are to be laid.
 - b. A description of foundation conditions prevailing at sites of proposed structures.
 - c. A description of the approximate elevation of ground water in relation to subsurface structures.
5. Water consumption—The report shall include:
 - a. A description of the population trends as indicated by available records, and the estimated population which will be served by the proposed water supply system or expanded system.
 - b. Present and estimated future water consumption values used as the basis of design.
 - c. Present and estimated future yield of the sources of supply.

6. Fire flow requirements:—if fire flows are to be provided, the quantity of fire flow which will be made available by the proposed or enlarged system shall be given.

7. Sewerage system available:—Describe the existing system and sewage treatment works, with special reference to its relationship to the existing or proposed waterworks which may affect the operation of the water supply system, or which may affect the quality of the water supply.

8. Source of water supply:—Describe the proposed source or sources of water supply to be developed and the reasons for their selection by supplying the following data:

a. Surface water sources

- (1) Hydrological data, stream flow, and weather records;
- (2) Safe yield, including all factors that may affect it;
- (3) Maximum flood flow, together with approval for safety features of spillway and dam from appropriate reviewing authority;
- (4) Summarized quality of raw water with special references to fluctuation in quality, changing meteorological conditions, sources of contamination, measures to protect the watershed, etc.

b. Groundwater sources

- (1) Sites considered;
- (2) Advantages of site selected;
- (3) Elevation with respect to surroundings and 100-year flood;
- (4) Probable character of geological formations through which source is to be developed;
- (5) Unusual geological conditions affecting site;
- (6) Summary of source exploration, test well depth and method of construction, placement of liners or screens; pumping test, hours, capacity; water level and specified yield; water quality;
- (7) Possible sources of contamination.

9. Proposed treatment processes—Summarize and establish the adequacy of proposed processes for the treatment of the specified water under consideration (pilot studies may be required).

10. Waste disposal—Discuss the various wastes from the water treatment plant, their volume, proposed treatment and points for discharge.

11. Automatic equipment—Provide supporting data justifying automatic equipment, including servicing.

12. Project sites—The report shall include:

- a. A discussion on various sites considered and advantages of the recommended one;
- b. A description of the proximity of residences, industries, and other establishments;

~~e. The location of potential sources of pollution that may influence the quality of the supply or interfere with the effective operation of the waterworks system, such as sewage absorption systems, septic tanks, privies, cesspools, sink holes, sanitary landfills, petroleum storage tanks, etc.~~

~~13. Financing—The report shall state:~~

- ~~a. The estimated cost of integral parts of the system;~~
- ~~b. The detailed estimated annual cost of operation;~~
- ~~c. The proposed method of financing, both capital charges and operating expenses.~~

~~14. Future extensions—Summarize planning for future needs and service.~~

1. Owners shall notify the department of all proposed construction projects, except distribution main projects that are permitted under the provisions of a general permit for distribution mains (see 12VAC5-590-300), or when the project is for the extension of water distribution piping having a diameter of eight inches or less and serving less than 15 connections (see § 32.1-172 A of the Code of Virginia).

2. The submission of a Waterworks Permit Application to the department on a form approved by the department.

3. Based on the application received, the department shall notify the owner if a preliminary engineering conference is required. A preliminary engineering conference shall be required for projects proposed using alternative delivery methods authorized under § 2.2-4380 of the Code of Virginia. The preliminary engineering conference shall define the scope of the project, project phasing, milestones, and deliverables. An evaluation procedure shall be agreed upon and the conference shall be documented.

4. The submission of preliminary engineering or intermediate design reports if required by the department. The need for and scope of the reports shall be established during the preliminary engineering conference.

5. The submission of a waterworks business operation plan that demonstrates the waterworks TMF [~~capability~~ capabilities]. The waterworks business operation plan consists of four primary components:

- a. Waterworks information that includes ownership data, a waterworks facility description, operator requirements, staffing needs, and staff training.
- b. Management information that identifies critical business practices necessary for effective management and operation of the waterworks. Management information includes the requirements essential for managing and operating the waterworks and defines the processes, methods, and tasks necessary for complying with this chapter.

c. Financial information that identifies projects, considering the waterworks revenues and cash flow, [which] will be sufficient for meeting the cost of operation and maintenance for at least five full years from the initiation of operations. Financial information also demonstrates the owner's ability to direct the waterworks' finances to support technical and managerial capacities and includes a self-assessment consisting of the following [~~several~~] financial metrics: operating cash reserve, debt service coverage, emergency reserve, and revenue sufficiency.

d. Sustainability improvements that are identified throughout the waterworks business operation plan to address TMF aspects of the waterworks' business processes that need improvement.

6. The submission of plans, specifications, final design criteria, and other supporting design data. This submission may include manufacturers equipment data sheets, drawings, and specifications when the specific materials or equipment to be used in the project have been preselected by the owner with the engineer's concurrence.

B. Well site inspection. When, upon inspection by the department, one or more well locations are found suitable for well sites, tentative approval in writing shall be furnished to the owner authorizing the drilling of wells, the exact location where each well is to be drilled, and the well construction requirements. This tentative approval will become void after a 12-month period.

~~D. C.~~ Plans for waterworks improvements construction shall provide the following information, where applicable:

- 1. A general layout ~~which~~ that includes:
 - a. Suitable title, to include name of waterworks;₂
 - b. Name of owner of waterworks;₂
 - c. Area or institution to be served;₂
 - d. Scale, ~~in feet;~~₂
 - e. North Point;₂
 - f. Datum used;₂
 - ~~g.~~ Boundaries of the municipality or area to be served;
 - ~~h.~~ g. Date, address, and name of ~~designing~~ owner's engineer;₂
 - ~~i.~~ Imprint of professional engineer's seal (see 12VAC5-590-220),
 - ~~j.~~ Legible prints suitable for microfilming, with size not to exceed 30 inches by 42 inches;
 - ~~k.~~ h. Location and size of existing ~~water mains,~~ distribution system; and
 - ~~l.~~ i. Location and nature of existing waterworks structures and appurtenances affecting the proposed ~~improvements~~ construction noted on one sheet.

2. Detailed plans ~~which~~ that include, where applicable:

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a. Stream crossings, providing profiles with elevations of the stream bed and the normal ~~and extreme high and low water levels,~~ water level;

b. Profiles having a horizontal scale of not more than 100 feet to the inch and a vertical scale of not more than 10 feet to the inch, with both scales clearly indicated;

c. Location and size of ~~the~~ property to be used for ~~the~~ groundwater development with respect to known references such as street intersections or section lines;

d. Topography and arrangement of present or planned wells or structures, with contour intervals not greater than two feet;

e. Elevation of highest known flood ~~level,~~ floor of structure, upper terminal of protective casing, and outside surrounding grade, using United States Coast and Geodetic Survey, United States Geological Survey, or equivalent elevations where applicable as a reference;

f. ~~Schematic drawing~~ A completed Uniform Water Well Completion Report, Form GW-2, and schematic drawings of well construction, showing diameter and depth of ~~drillholes~~ drill holes, casing and liner diameters and depths, grouting depths, elevations and designation of geological formation, water levels, and other details to describe the proposed well completely;

g. ~~Location~~ If not previously submitted in the preliminary engineering report (PER): the location of all potential sources of pollution within ~~250~~ 1,000 feet (~~or further,~~ depending upon aquifer type and recharge area) of drilled wells, 100 feet of treated water storage facilities, five miles upstream from surface water intakes, and the entire drainage area of springs;

h. Size, length, identity, and location ~~or~~ of sewers, drains, ~~water mains~~ distribution systems, and water treatment plant structures;

i. Schematic flow diagrams and hydraulic profiles showing the flow through various water treatment plant units;

j. Piping in sufficient detail to show flow through the water treatment plant, including waste lines;

k. Location of all chemical feeding equipment and points of chemical application;

l. All appurtenances, specific structures, equipment, water treatment plant waste disposal units, and point of discharge having any relationship to the plans for ~~water mains and/or~~ distribution system or waterworks structures;

m. Location of sanitary or other facilities such as lavatories, showers, toilets, and lockers;

n. Location, dimensions, and elevations of all proposed water treatment plant facilities; and

o. Adequate description of all features not otherwise covered by the specifications.

~~E. Complete, detailed, technical specifications shall be supplied for the proposed project which include where applicable:~~

D. Specifications for waterworks construction improvements shall provide the following information, where applicable:

1. A program for keeping existing waterworks facilities in operation during construction of additional facilities so as to minimize interruption of service;

2. ~~Laboratory~~ The laboratory facilities and equipment, as well as sampling taps and their locations;

3. ~~Number~~ The number and design of treatment process components;

4. ~~Materials~~ The materials or proprietary equipment for sanitary or other facilities including any necessary backflow or backsiphonage backflow protection;

5. Workmanship; and

6. Other equipment.

~~E. E. Design criteria.~~ A summary of complete design criteria shall be submitted for the proposed project, containing but not limited to the following information, where applicable:

1. ~~Yield of source of supply,~~ Source water capacity;

2. ~~Reservoir surface area,~~

3. ~~Area of watershed,~~

4. 2. Estimated water consumption, including average day, maximum day, and peak hour flows;

5. 3. Number and type of proposed services;

6. ~~Fire fighting~~ 4. Firefighting requirements;

7. 5. Basin capacities;

8. 6. Retention times;

9. 7. Unit loadings;

10. 8. Filter area and proposed filtration rate;

11. 9. Backwash rate; and

12. 10. Feeder capacities and ranges.

F. For community waterworks, a copy of the duly recorded (i) plat plan of the well lot or subdivision plan showing the well lot and (ii) dedication document stating that the well lot shall be used only for waterworks appurtenances as long as the lot is utilized as part of a waterworks.

G. For noncommunity waterworks, the [commissioner department] may on a case-by-case basis require a copy of a duly recorded plat plan of a well lot and a dedication document stating that the well lot shall be used only for waterworks appurtenances as long as the lot is utilized as part of a waterworks. In imposing such a requirement, the

[~~commissioner~~ department] shall take into consideration public health protection and the waterworks operations, treatment processes, and appurtenances.

12VAC5-590-210. ~~Formal requirements~~ Requirements for the submission of engineering data.

~~A. In accordance with Article 1 (§ 54.1-400 et seq.) of Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia, all drawings, specifications, and engineer's reports submitted for approval shall be prepared by or under the supervision of a licensed professional engineer legally qualified to practice in Virginia, unless submitted under § 54.1-408 of the Code of Virginia for practice of land surveying in subdivisions.~~

~~The front cover of each set of drawings, of each copy of the engineer's report, and of each copy of the specifications submitted for review shall bear the signed imprint of the seal of the licensed professional engineer who prepared or supervised the preparation and be signed with an original signature. In addition, each drawing submitted shall bear an imprint or a legible facsimile of such seal. B. The quantity, format, and method of submission shall meet the evaluation needs of the department and shall be consistent with the requirements in Chapter 42.1 (§ 59.1-479 et seq.) of Title 59.1 of the Code of Virginia.~~

~~C. All reports, plans, and specifications shall be submitted to the field office ~~department~~ at least 60 days prior to before the date upon which action by the ~~division~~ department or commissioner is desired.~~

~~D. If the procedures for obtaining a construction permit in 12VAC5-590-200 are not complied with or if plans and specifications are found to be incomplete or inadequate for detailed review evaluation, then the plans and specifications will be returned to the submitting party. If revisions to the plans or specifications or both are necessitated, a letter will be sent to the owner and engineer who prepared them outlining the will be notified in writing of the necessary revisions. Revised plans, or specifications, or both constitute a resubmittal; however, the division will make every resubmission. Every effort will be made to complete the review of such evaluation of these revisions promptly. Preliminary plans and the engineer's report should be submitted for review prior to preparation of final plans.~~

12VAC5-590-220. Compliance with the Manual of Practice.

A. The design guidelines set forth in ~~the Manual of Practice (Part III)~~ Part III Manual of Practice for Waterworks Design (12VAC5-590-640 et seq.) of this chapter (Manual of Practice) specify general criteria for the design and construction of waterworks. The ~~division~~ commissioner may impose standards or requirements which that are more stringent than those contained in the Manual of Practice when required for ~~critical areas or special conditions~~ to meet drinking water quality

standards. Any ~~such~~ special standards or requirements with a federal mandate shall take precedence over the criteria in the ~~manual~~ Manual of Practice and will be items which that warrant careful consideration at the preliminary engineering conference, referenced in 12VAC5-590-200 B.

B. Designs submitted for waterworks must demonstrate that the ~~system~~ waterworks will adequately safeguard public health. Submissions which that are in substantial compliance with the Manual of Practice ~~or and any~~ additional requirements of the ~~department~~ commissioner, as noted above in [~~subdivision~~ subsection] A of this section, will be approved. Justification for a design may be required for those portions of the submitted design which that differ from the criteria ~~of the division, set forth in the Manual of Practice, or accepted engineering practices~~ and any established by the commissioner. Deviations from "shall" mandatory criteria which the design engineer, in his judgment, believes to be substantial in nature contained in the Manual of Practice shall be identified and justified. ~~The division~~ For each deviation, the commissioner may require changes in designs which are not in substantial compliance with the manual and which are not adequately justified by the engineer ~~owner~~ issue a design exception or require compliance with the criteria.

C. Final, complete, and detailed plans and specifications submitted in accordance with the provisions of 12VAC5-590-200 and 12VAC5-590-210 will be ~~reviewed~~ evaluated by the ~~division~~ department as soon as practicable upon receipt. ~~Such plans~~ Plans and specifications will be approved if they demonstrate substantial compliance with the design criteria set forth in the Manual of Practice and any established by the commissioner and if the waterworks, as constructed or modified, will be able to function in compliance with ~~the operating regulations set forth in Part II (12VAC5-590-340 et seq.) of this chapter. One set of the approved plans and specifications will be stamped by the division and returned to the owner.~~

D. Compliance with the Manual of Practice for transient noncommunity waterworks is allowed the following exceptions as long as the conditions in subsection E of this section are satisfied:

1. The design of a transient noncommunity waterworks is not required to satisfy the professional engineer licensure requirement of 12VAC5-590-210 under the following conditions:

- a. The waterworks shall serve no more than 100 persons per day.
- b. The waterworks shall consist only of one supply of source water, a pressure tank no greater than 250 gallon capacity, and a single service connection.
- c. The single service connection shall be a building or structure of less than 5,000 square feet total floor space. The determination of square footage shall be calculated using the outside perimeter of the building or structure.

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2. Although the owner of a transient noncommunity waterworks is required to use a water well systems provider certified by DPOR for drilling wells, the remainder of the waterworks facility construction at a transient noncommunity waterworks may be performed by a master plumber or a certified water well systems provider, as defined in § 54.1-1129.1 of the Code of Virginia.

E. The conditions for exceptions to the Manual of Practice for transient noncommunity waterworks specified in subsection D of this section are as follows:

1. The owner shall submit a signed and dated statement attached to the permit application, certifying that subsection D of this section will be satisfied.

2. The owner shall submit information related to the design, construction, and materials used as required by the department.

12VAC5-590-230. Issuance of the construction permit.

A. Upon approval of the plans and specifications, the commissioner will issue a permit to the owner to construct or modify his the waterworks or water supply in accordance with the approved plans and specifications.

B. The construction permit shall be valid for a period of five years. If construction has not begun within five years but were to proceed in the future, then the owner shall reapply for a new construction permit.

C. The construction permit may include conditions for securing equipment certifications and performance validations.

12VAC5-590-240. Revisions of approved plans.

A. Any deviations from the approved plans and specifications affecting capacity, hydraulic conditions, operating units, the functioning of water treatment processes, or the quality of water to be delivered must be approved by the ~~division~~ department before any ~~such changes~~ of these deviations are made implemented.

B. Revised plans and specifications shall be submitted in time to ~~permit~~ allow the ~~review~~ evaluation and approval of ~~such~~ these plans or specifications before any construction work which ~~that~~ will be affected by ~~such~~ these changes is ~~begun~~ may begin.

12VAC5-590-250. Statement required upon completion of construction.

A. Upon completion of the construction or modification of the waterworks, the owner shall submit to the ~~field office~~ department a statement signed by a licensed professional engineer stating that the construction work was completed in accordance with the approved plans and specifications, revised only in accordance with the provisions of 12VAC5-590-240. This statement is called a statement of completion of construction and shall be based upon inspections of the

waterworks during and after construction or modifications, ~~that~~. These inspections are to be adequate to ~~insure~~ ensure the truth of the statement of completion of construction.

B. The project documents may require a performance validation report to confirm the design, performance criteria, and appropriate emergency procedures for specific processes and equipment. The project documents may also require operator training. If these requirements are included in the project documents, then the statement of completion of construction shall also include the performance validation report and a certification of successful operator training, as applicable.

12VAC5-590-260. Issuance of the operation permit.

A. Upon receipt of the ~~12VAC5-590-250~~ statement of completion of construction, receipt of all required certifications and test results, inspection by the department to ensure that the project has been satisfactorily completed in accordance with the approved design documents, and verification that bacteriological test results comply with the requirements set forth in Part II of this chapter, as appropriate, the commissioner will issue an ~~operating~~ operation permit. ~~However, the commissioner may delay the granting of the permit pending inspection by the field office to insure that the work has been satisfactorily completed.~~

B. The owner shall not operate a waterworks without first having obtained an operation permit except as provided in 12VAC5-590-290.

C. The commissioner shall establish the type (community waterworks, NTNC, or TNC), classification, and permitted capacity of the waterworks and specify these on the operation permit. Conditions may be included with the permit for operator, monitoring, and reporting requirements.

12VAC5-590-270. ~~Inspection and correction~~ Start-up testing and inspections.

A. ~~Within 30 days after~~ Before placing a new or modified waterworks or water supply into operation following construction, the owner shall test the water ~~produced~~ at the entry point to the distribution system in a manner acceptable to the ~~division~~ department. ~~The field office will be notified~~ owner shall notify the department of the time and place of the tests. ~~Results~~ The owner shall send the results of the tests ~~will be sent~~ to the ~~field office~~ department.

B. The commissioner, ~~a member of the board, or a member of the division~~ [has and department have] a right to inspect any waterworks or water supply and to be present for any testing in accordance with Title 32.1 of the Code of Virginia.

12VAC5-590-280. Procedure for obtaining a construction permit for well sources. (Repealed.)

Since the quantity and quality of water from proposed wells cannot be anticipated, the following procedure shall be used:

~~1. Submittal of application see 12VAC5-590-200 A.~~

~~2. Preliminary engineering conference see 12VAC5-590-200 B.~~

~~3. When, upon inspection by the division's engineer, one or more well lots are found suitable for well sites, then tentative approval in writing will be furnished to the owner authorizing him to proceed with the drilling of the well or wells and this letter will specify the exact location on the lot where each well is to be drilled. Also, the letter will specify that the well shall be Class I or Class II, meeting the specifications set forth in Part III Article 2, Source Development. This tentative approval will become void after a 12 month period and the site must be reinspected before construction when so voided.~~

~~4. Submittal of engineer's report and preliminary plans see 12VAC5-590-200 C.~~

~~5. Submittal of plans, specifications, and other data see subsections D, E, and F of 12VAC5-590-200; 12VAC5-590-210 and 12VAC5-590-840. One of the following must also be submitted:~~

~~a. A copy of the plat plan showing that it has been duly recorded and signed by the clerk of the court, giving the deed book and page number and date of recording, will be required before a construction permit can be issued, or~~

~~b. If the well lot is identified on a recorded plan of the subdivision as a well lot, then this is acceptable, if recorded as required by this subsection.~~

~~In addition, a dedication document duly recorded with the clerk of the circuit court must be furnished stating that the well lot shall be used only for waterworks appurtenances as long as this lot is utilized as part of a waterworks.~~

~~6. Compliance with 12VAC5-590-220 through 12VAC5-590-270 is required.~~

12VAC5-590-290. Procedure for issuance of special permits for new or nonconventional methods, processes, and equipment Issuance of a temporary operation permit.

A. Water treatment methods, processes, and equipment which that are not covered by the design criteria of Part III ~~or Part IV~~ (12VAC5-590-640 et seq.) of this chapter, and which that in principle or application are new or nonconventional, are subject to a special temporary permit application procedure ~~in lieu~~ instead of that set forth in 12VAC5-590-200. A special temporary permit may be issued only after detailed review evaluation of all engineering data and after a period of extensive monitoring of the water treatment plant performance.

B. ~~The policy of the board is to encourage~~ The department encourages the development of any new or nonconventional methods, processes, and equipment ~~which,~~ that by virtue of treatability studies, appear to have application for ~~the purification of raw water treatment.~~ However, these new or nonconventional developments shall have been thoroughly

tested in a ~~full scale~~ full-scale or representative pilot plant installation before ~~approval of a plant utilizing this process~~ these methods, processes, and equipment can be employed are approved and an operation permit issued. The ~~result of this testing must~~ results shall be submitted to the ~~field office~~ department. The testing required on new or nonconventional developments will shall generally follow these guidelines:

1. All procedures used in validating the process shall be conducted under the supervision of (i) a licensed professional engineer experienced in the field of environmental engineering, (ii) the owner's engineering staff, or (iii) a testing firm acceptable to the ~~division~~ commissioner department;

2. Samples shall be collected and analyzed in a manner ~~which would~~ that shall demonstrate water treatment plant effectiveness and efficiency under adverse conditions and over extended periods of time in the area of the proposed installation;

3. The data shall be from the continuous operation of a ~~full scale~~ full-scale or pilot plant treating the type of water to be handled;

4. Automatic indicating, recording, and totalizing ~~flow measuring~~ equipment shall be provided, and the total flow shall be measured and recorded daily;

~~5. At installations treating surface waters, employing coagulation, flocculation, sedimentation, filtration, and disinfection, automatic indicating and recording equipment shall be provided for continuously monitoring the turbidity of the raw water, settled water, and each filter effluent, as well as pH monitoring of the treated water (flash mix effluent);~~

~~6. 5.~~ If the ~~raw water source~~ source water receives upstream discharges of treated industrial wastes or ~~sewage effluents~~ treated wastewater, then automatic indicating and recording equipment shall be provided for continuously monitoring the pH of ~~raw~~ the source and finished water ~~and in addition to~~ the chlorine residual of the finished water;

~~7. 6.~~ The minimum sampling and analysis program will be established by the ~~division~~ commissioner department in accordance with the process under investigation; and;

~~8. 7.~~ All analyses shall ~~be made in accordance with the most current edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation or analytical methods approved in advance by the division~~ utilize methods that are consistent with 12VAC5-590-440.

C. Detailed plans shall be submitted where possible showing how, in case of nonacceptance, the water treatment plant or unit water treatment methods, processes, and equipment will be converted to, or replaced with, a proven process. Also,

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financial resources must be assured to make the conversion (for example, funds placed in escrow or a bond ~~posted~~ posted).

D. After ~~review~~ evaluation of the plans and testing data, the commissioner will issue a construction permit if ~~he is satisfied~~ the performance data verifies that the method, process, or equipment ~~will may~~ efficiently produce water that will meet in accordance with the design specifications and the operation standards of Part II, and that the method, process, or equipment may be converted to a conventional technique, if necessary (12VAC5-590-340 et seq.) of this chapter.

E. Upon completion of construction or modification, a ~~provisional~~ temporary permit for a definite period of time will be issued for the operation of the new or nonconventional methods, processes, and equipment. Not more than one ~~provisional~~ temporary permit will be granted for a similar installation during the evaluation period. The ~~provisional~~ temporary operation permit shall require that:

1. The evaluation period shall be a minimum of 12 months and no longer than 18 months; and
2. The holder of a ~~provisional~~ temporary operation permit ~~must~~ shall submit reports on operation during the evaluation period as required by the ~~division~~ [commissioner department]. The reports shall be prepared by (i) a licensed professional engineer experienced in the field of environmental engineering, (ii) the owner's operating or engineering staff, or (iii) a testing ~~firm~~ acceptable to the division organization.

F. ~~The commissioner will issue an operation permit upon lapse of the provisional permit, if, on the basis of testing during that period, he finds that the new or nonconventional method, process, or equipment efficiently meets the operation standards of Part II. If the standards are not met, then the commissioner will issue an order which will require the alteration of the waterworks or water supply in a manner that will enable those standards to be met.~~

F. The commissioner may issue a temporary operation permit if the waterworks is not in compliance with this chapter and public health will not be jeopardized. The temporary permit may be issued for a period of time and subject to conditions as the commissioner may deem appropriate for the owner to achieve compliance with this chapter.

1. The commissioner may require, as a condition to a temporary operation permit, the submission of a waterworks business operation plan by new waterworks and existing waterworks that have demonstrated limited TME [capability capabilities] or significant noncompliance with this chapter.
2. The waterworks business operation plan shall satisfy the requirements of 12VAC5-590-200 A 5.

12VAC5-590-300. Procedure for obtaining Issuance of a general permit for construction of distribution mains.

~~In lieu A. Instead of obtaining a permit for each distribution main project, an owner may elect to obtain a general permit for the construction of distribution mains. These general permits are issued by the commissioner, but all requests for a general permit are directed initially to the field office department.~~

B. The following procedure for obtaining the requirements shall be satisfied for the issuance of a general permit shall be used:

1. The owner shall develop, adopt, and have ~~division the~~ [commissioner's department's] approval of general specifications and plan details covering water distribution main design and construction. The general specifications shall be at least as stringent as the requirements contained in this chapter.
2. The owner shall enter into a memorandum of understanding (MOU) with the ~~division which outlines the following system specific~~ [commissioner department]. The [commissioner department] will outline the waterworks-specific requirements, and the owner's method of compliance with such the requirements. The waterworks-specific requirements include the following:
 - a. The maximum size of pipe to be covered by the general permit;
 - b. The means for modifying the ~~division department's~~ approved general specifications and plan details;
 - c. The maintenance of engineering capabilities satisfactory to the ~~division~~ [commissioner department], either on-staff or through contractual arrangements;
 - d. The preparation of engineering plans and specifications for individual projects;
 - e. The maintenance of up-to-date distribution system maps and other appropriate records; and
 - f. The submission by the owner to the ~~division department~~ of appropriate reports, including an annual report and summary, concerning all projects constructed under the terms of the general permit MOU and information concerning changes to the distribution system.

~~C. Once the general specifications are approved and the MOU is agreed to by the [commissioner department], [the commissioner will issue] a general permit for distribution mains [shall be issued] with the MOU attached.~~

D. The general permit allows for the construction of distribution mains. The duration for the general permit is five years.

12VAC5-590-310. Amendment or reissuance of operation permits.

A. The commissioner may amend or reissue a an operation permit where (i) when there is a change in the manner of

storage, ~~the~~ treatment, or ~~the source~~ of supply of the source water at the permitted location; ~~(ii) when the existing permit is no longer valid; or~~ (iii) for any other cause incident to the protection of the public health; ~~or~~ (iv) for the supplying of ~~pure~~ potable water, ~~provided. A notice is~~ may be required to be given to the owner, and, if one is required, a hearing held in accordance with the provisions of subdivisions 1 and 2 of 12VAC5-590-160 12VAC5-590-115.

B. The commissioner may require submission of a waterworks business operation plan as a condition to amend or reissue an operation permit. The waterworks business operation plan shall satisfy the requirements of 12VAC5-590-200 A 5.

12VAC5-590-320. Revocation ~~or~~ suspension of a an operation permit.

A. The commissioner may ~~suspend or~~ revoke a an operation permit in accordance with ~~Administrative Process Act the~~ APA. Reasons for revocation of ~~permits are as follows include:~~

- ~~1. Failure to comply with the conditions of the permit;~~
- ~~2. Violation of Title 32.1 of the Code of Virginia or of any of this chapter from which no variance or exemption has been granted;~~
- ~~3. Change in ownership;~~
- ~~4. Abandonment of the waterworks and discontinuing the supplying of pure water; and~~
- ~~5. Any of the grounds specified in § 32.1-174 of the Code of Virginia.~~
 1. The waterworks can no longer be depended upon to furnish potable water;
 2. The capacity of the waterworks is inadequate for the purpose of furnishing potable water;
 3. The owner has failed to abide by an order issued by the commissioner;
 4. The owner has abandoned the waterworks and discontinued supplying potable water; or
 5. The owner has failed to pay the waterworks operation fee required by § 32.1-171.1 of the Code of Virginia.

B. Procedure for revocation of operation permit. When ~~revoking or suspending permits~~ an operation permit in accordance with ~~the above~~ subsection A of this section, the commissioner shall:

1. Send a written notice of intent to ~~suspend or~~ revoke by certified mail to the last known address of the waterworks owner. The notice shall state the reasons for the proposed ~~suspension or~~ revocation of the operation permit, the authority under which the commissioner proposes to act, and shall give the time and place of the hearing; and offer the

opportunity for an administrative proceeding in accordance with 12VAC5-590-115.

2. Provide at least 30 days advance notice of the ~~hearing~~ administrative proceeding.

~~C. An owner who is given notice of intent to revoke or suspend his permit has a right to a hearing as specified in 12VAC5-590-160 and 12VAC5-590-180.~~

12VAC5-590-330. Monitoring, records, and reporting.

A. The commissioner or ~~the division~~ department may require the owner or operator of any waterworks or water supply to install, use, and maintain monitoring equipment for the control and testing of water flowing through the water treatment plant to:

1. Identify and determine the cause of operational problems;
2. Determine the necessary corrective actions for these problems;
3. Ensure compliance with Part II of this chapter; and
4. Prepare the finished water for entry into the distribution system.

B. Sampling and testing shall be by methods approved by the ~~division~~ [~~commissioner~~ department]. Test results shall be recorded, compiled, and reported to the ~~field office~~ department in [a an acceptable manner and] format [~~approved by acceptable to the division commissioner~~].

12VAC5-590-340. General Compliance standards.

A. All physical, chemical, bacteriological, or radiological analyses for the purpose of demonstrating compliance with ~~primary and secondary maximum contaminant levels action levels or contaminants that do not have PMCLs but for which compliance samples must be analyzed by certified laboratories~~ the requirements of this chapter shall be performed by [~~the~~] Commonwealth of Virginia, Department of General Services, Division of Consolidated Laboratory Services (DCLS) [~~DCLS or~~] in [~~by~~] laboratories [~~certified by the that have received certification by EPA or DCLS as specified~~] ~~Division of Consolidated Laboratory Services~~ [~~DCLS for such purposes unless listed~~] in 12VAC5-590-440 [~~C~~]. The owner is responsible for the collection and submission of all samples. The department may require sampling and testing that exceeds the minimal requirements specified in this chapter. A sample is deemed to have been collected only if and when its results are made known to the Office of Drinking Water department.

B. Specific limits. No attempt has been made to prescribe specific limits for every contaminant that might occur in a water supply or a waterworks. Although the need exists for continued attention to the entry of chemical, physical, bacteriological, and radiological substances into drinking water, the limits are confined to substances recognized as being detrimental to the health or well-being of the consumer or that

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cause significant degradation of the usefulness of the water. Limits for innumerable substances would require an impossible burden of analytical examination. The specific limits included in this chapter are listed in Tables 340.1 through 340.7.

C. Compliance is determined:

1. Based on sample results or calculated averages, where appropriate, rounded to the same number of significant figures as the PMCL, SMCL, AL, or MRDL of the contaminant in question, or

2. By the application of the specific treatment technique for particular contaminants (see 12VAC5-590-391).

EDITOR'S NOTE: Tables 340.1 through 340.7 are not further amended from the proposed regulation, therefore they are not published. View the tables as proposed at [36:6 VA.R. 475-845 November 11, 2019](#).

D. Notwithstanding the MRDLs in Table 340.7, an owner may increase the residual disinfectant level of chlorine or chloramines (but not chlorine dioxide) in the distribution system to a level and for a time necessary to protect public health. This may include specific microbiological contamination problems caused by circumstances such as distribution line breaks, storm runoff events, water supply contamination events, or cross-connection events.

12VAC5-590-350. Sanitary surveys Assessments and sanitary surveys.

A. Frequent assessments shall be made by the owner of the water supply source and waterworks to locate and identify health hazards to the waterworks. The manner and frequency of making these assessments, and the rate at which discovered health hazards are to be removed, shall be the responsibility of the owner. Every effort shall be made by the owner, to the extent of his jurisdiction, to prevent the degradation of the quality of water supply sources supplies.

~~B. The commissioner may perform sanitary surveys. Owners~~
The department is required to perform sanitary surveys and site visits to assess the condition of a waterworks and its source water. Pursuant to § 32.1-25 of the Code of Virginia, the department [personnel have the right, shall, upon presentation of appropriate credentials and] with the owner's consent, [have the right] of entry onto the waterworks property and the facilities to inspect, investigate, evaluate, conduct tests, and collect samples for testing for the purposes of determining compliance with the provisions of any law, regulation, or order administered by the board or commissioner or any conditions in a permit, license, or certificate issued by the board or commissioner. The owner shall provide any existing information requested by the department that will enable the commissioner the department [personnel] to conduct the sanitary survey or site visit.

C. A sanitary survey includes, ~~but is not limited to,~~ an onsite evaluation of all of the following eight components:

1. Source;
2. Treatment;
3. Distribution system;
4. Finished water storage;
5. Pumps, pumping facilities, and controls;
6. Monitoring, reporting, data verification, and a special monitoring evaluation during each sanitary survey to determine whether the waterworks monitoring is appropriate or needs modification;
7. Waterworks system management and operation; and;
8. Number and classification of ~~licensed operator(s) required in 12VAC5-590-460 operators. Licensed operators~~ Operators shall also comply with all applicable regulations promulgated by the Virginia Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals, ~~Department of Professional and Occupational Regulation and DPOR.~~

D. Significant deficiencies discovered as a result of a sanitary survey shall be addressed in accordance with the following:

1. The ~~commissioner~~ department shall issue written notification describing the significant deficiency to the owner.
2. Within 30 days of the ~~significant deficiency~~ significant-deficiency notification, the owner shall consult with the ~~commissioner~~ department regarding the appropriate corrective action with a schedule for implementing the corrective action. ~~Any A~~ waterworks with one or more significant deficiencies must have a ~~Corrective Action Plan (CAP) CAP~~ as described in 12VAC5-590-421 A.
3. Within 45 days of the ~~significant deficiency~~ significant-deficiency notification, the owner shall submit to the department a CAP with a schedule for meeting the requirements of 12VAC5-590-421 A.

12VAC5-590-360. Responsibility; Responsibilities of the owner.

A. ~~The water utility owner or owner of the property served, to the extent of their respective jurisdictions,~~ shall provide and maintain conditions ~~through throughout~~ the entirety of the ~~water supply system waterworks~~ in a manner ~~which that~~ will assure a high degree of capability and reliability to ~~effect~~ compliance with these standards comply with Part II (12VAC5-590-340 et seq.) of this chapter. This requirement shall pertain to the ~~source of supply~~ source water, transmission, treatment, transmission, storage, and distribution system facilities and the operation thereof. ~~In addition, this requirement shall include specific and continuing assessment~~

of the capability, effectiveness, and reliability of the treatment process in relation to potential contaminants in the source of supply. Finally, this requirement shall include the identification and evaluation of all The owner shall identify and evaluate factors having with the potential for impairing the quality of the water as delivered to customers and appropriate preventive and control the consumers. Preventative control measures identified in Part II of this chapter shall be promptly implemented to protect public health.

~~B. For the purpose of application of this chapter, responsibility for the conditions in the water supply system shall be considered to be held by: 1. The owner from the source of supply to the customer's service connection; and 2. The owner of the property served and the municipal, county, or other authority having legal jurisdiction from the customer's service connection to the free flowing outlet. For the purpose of achieving compliance with this chapter, the owner shall exercise control of the waterworks from the source water to the service connection. This requirement does not imply ownership of or maintenance for any portion of the service line where local agreements and conditions dictate otherwise.~~

C. The property owner shall exercise control of all buildings, structures, and equipment up to the point of the service connection to the waterworks. This requirement does not limit or modify ownership of or maintenance for the service line, that may be specified by local agreements and conditions.

~~Article 2~~
General Information

12VAC5-590-370. Sampling—frequency Monitoring requirements.

~~The commissioner may exempt consecutive waterworks that obtain potable water from another water system for distribution from all monitoring requirements in this section except for bacteriological (subsection A of this section); disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors (subdivision B 3 of this section); and lead and copper (12VAC5 590 375). The required sampling frequencies are as follows:~~

A. Bacteriological monitoring.

1. The owner shall collect total coliform samples at specific sites and according to a schedule that is representative of water quality throughout the distribution system, which shall be documented in a written ~~bacteriological sample siting plan (BSSP)~~ BSSP. The BSSP shall be established or approved by the ~~commissioner~~ department after investigation of the source water, method of treatment and storage, and ~~protection of the water concerned~~ the final delivery of the drinking water through the distribution system. The BSSP shall include, ~~but is not limited to,~~ the following:

a. Specific routine, repeat, and triggered source water monitoring sites, identified by address or location.

b. Distribution ~~map~~ maps showing the location where specific sampling sites will be selected with all monitoring sites identified.

c. A minimum of three routine sample sites identified for each required routine sample for waterworks serving 3,300 or fewer people.

d. ~~Sample A~~ sample collection schedule with the number of routine samples required per monitoring period in accordance with Table ~~2-1~~ 370.1 and subdivision A 4 of this section.

e. Repeat sample sites for each routine sample site that shall include the original routine location, at least one tap within five service connections upstream, and at least one tap within five service connections downstream with the following exceptions:

(1) Alternative repeat sample sites may be allowed when a routine site is one connection away from or at the end of a water supply distribution system main or as approved by the ~~commissioner~~ department;

(2) ~~Groundwater waterworks~~ A groundwater system serving 1,000 or fewer people may propose repeat sample sites, such as an entry point to the distribution system, that differentiate potential source water and distribution system contamination; or

(3) ~~Groundwater waterworks~~ A groundwater system serving 1,000 or fewer people with a single well source and no treatment may propose that one repeat sample be collected at the triggered source water monitoring site, provided that representative sampling of the distribution system is still achieved.

f. A repeat sampling site shall not be eliminated from future collections solely based on a history of questionable water quality unless the sampling point is unacceptable as determined by the ~~commissioner~~ department.

g. A seasonal waterworks may collect special samples in accordance with an approved start-up procedure pursuant to subdivision A ~~40~~ 12 a of this section.

2. The minimum number of bacteriological samples for total coliform evaluation to be collected and analyzed monthly from the distribution system of a community waterworks, or ~~nontransient noncommunity waterworks~~ a NTNC shall be in accordance with Table ~~2-1~~. ~~Owners of all~~ 370.1. The owner of a (i) ~~transient noncommunity waterworks~~ TNC that use uses a surface water source or a groundwater source under the direct influence of surface water and or (ii) a large ~~transient noncommunity~~ TNC (serving 1,000 or more persons per day) ~~waterworks~~ shall collect and submit samples monthly for analysis in accordance with Table ~~2-1~~ 370.1. ~~Owners of~~ For all other ~~transient noncommunity waterworks~~ TNCs, the owner shall collect and submit samples for analysis each calendar quarter in accordance with Table ~~2-1~~ 370.1. The minimum number of samples must be collected and submitted even if the waterworks has

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exceeded the E. coli PMCL or the total coliform treatment technique triggers.

3. The samples shall be ~~taken~~ collected at ~~reasonably~~ evenly spaced time intervals as practical throughout the month, except that ~~a~~ waterworks that ~~use~~ uses only groundwater ~~servicing and serves~~ 4,900 or fewer people may ~~collect all~~ have the required samples collected on a single day if the samples are ~~taken~~ collected from different sites.

4. If the results of a sanitary survey or other factors determine that some other frequency is more appropriate than that stated in subdivisions ~~A 2 and A 3 and A 4~~ A 2 and A 3 of this section, then a modified BSSP may be required. The altered frequency shall be confirmed or changed on the basis of subsequent sanitary surveys or as otherwise determined by the ~~commissioner~~ department.

5. ~~An~~ The owner may conduct more compliance monitoring than is required by this section to investigate potential problems in the distribution system and to assist in uncovering problems. ~~An~~ The owner may ~~take~~ collect more than the minimum number of required routine samples. If the samples are ~~taken~~ collected in accordance with the existing BSSP and are representative of water quality throughout the distribution system, then all of the results shall be included in determining whether a coliform treatment technique has been triggered.

6. ~~An~~ The owner may propose repeat monitoring locations believed to be representative of a pathway for contamination of the distribution system. ~~An~~ The owner may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a ~~standard operating procedure (SOP)~~ SOP in its BSSP. The owner shall design the SOP to focus on the collection of repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system ~~area~~ based on specific situations. The ~~commissioner~~ department shall require modifications to the SOP or require alternative monitoring locations as needed.

TABLE 2-4 370.1 Bacteriological Monitoring	
POPULATION SERVED PER DAY	MINIMUM NUMBER OF SAMPLES ^a (See subdivision A 2 of this section)
25 to 1,000 ^b	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5

4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

^aMonthly monitoring is required for the following waterworks: (i) community, (ii) nontransient noncommunity, (iii) all noncommunity waterworks that use a surface water source, a GUDI source, or both, (iv) all seasonal waterworks, and (v) large noncommunity (serving more than 1,000 people per day). Quarterly monitoring is required for noncommunity waterworks not specifically identified in the monthly requirements. Annual monitoring

may be allowed at a TNC that meets the criteria specified in subdivision A 8 of this section.

^bIncludes a waterworks that have at least 15 service connections, but serve fewer than 25 persons.

7. All bacteriological analyses shall be performed in accordance with 12VAC5-590-440 by the ~~Division of Consolidated Laboratory Services (DCLS)~~ DCLS or by a laboratory certified by the DCLS for drinking water samples.

8. Annual monitoring. The department may reduce the bacteriological monitoring frequency at a well-operated TNC from a quarterly sample to one annual sample, and the waterworks may remain at the annual monitoring frequency provided that all of the following conditions are continuously met:

- a. The waterworks serves 1,000 or fewer people per day.
- b. The waterworks uses groundwater only and is not under the influence of surface water.
- c. The waterworks has a clean compliance history for a minimum of 12 consecutive months.
- d. The most recent sanitary survey shows that the waterworks is free of sanitary defects or has corrected all identified sanitary defects.
- e. The waterworks has a protected water source.
- f. The waterworks meets existing approved construction standards.
- g. The department has conducted an annual site visit within the last 12 months, and all identified sanitary defects have been corrected. For the purposes of this section, an annual site visit is equivalent to a voluntary Level 2 assessment that meets the criteria in 12VAC5-590-392 C. A sanitary survey may meet the requirement for an annual site visit in the year in which the sanitary survey is completed if all identified sanitary defects have been corrected.

~~8.~~ 9. Increased monitoring.

- a. A ~~transient noncommunity waterworks~~ TNC on quarterly or annual monitoring shall begin monthly monitoring in the month following an event if any of the following ~~were to occur~~ occurs: (i) the waterworks triggers a Level 2 assessment or two Level 1 assessments under the provisions of 12VAC5-590-392 in a rolling 12-month period, (ii) the waterworks has an E. coli PMCL violation, (iii) the waterworks has a coliform treatment technique violation, (iv) the owner has two monitoring violations under 12VAC5-590-370 A 2, or (v) the owner has one monitoring violation under 12VAC5-590-370 A 2 and one Level 1 assessment under 12VAC5-590-392 in a rolling 12-month period. ~~Owners~~ The owner shall continue monthly monitoring until the requirements in subdivisions ~~A 9 a A 10 a~~ A 10 a and ~~A 9 b A 10 b~~ A 10 b of this section are met. A waterworks on monthly monitoring for other reasons is not

considered to be on increased monitoring for the purpose of this subdivision.

b. A TNC on annual monitoring that experiences one monitoring violation of 12VAC5-590-370 must begin quarterly monitoring in the quarter following the event. The owner shall continue quarterly monitoring until the conditions in subdivision A 11 of this section are continuously met and the department reduces the monitoring frequency.

~~9.~~ 10. Returning to quarterly routine monitoring. The ~~commissioner~~ department may return the monitoring frequency of a ~~transient noncommunity waterworks~~ TNC subject to subdivision A 9 a of this section and using groundwater not under the influence of surface water to quarterly monitoring if:

- a. The ~~commissioner~~ department has completed a sanitary survey or a site visit within the last 12 months, and the ~~transient noncommunity waterworks~~ TNC is free of sanitary defects and has a protected water source; and
- b. The ~~owner~~ waterworks has maintained a clean compliance history, ~~defined as a record of no PMCL violations for microbiological contaminants, no monitoring violations under 12VAC5-590-370, and no coliform treatment technique trigger exceedances or treatment technique violations under 12VAC5-590-392,~~ for a minimum of 12 consecutive months following the event.

11. Returning to annual routine monitoring. The department may reduce the monitoring frequency of a TNC subject to subdivision A 9 of this section and using groundwater not under the influence of surface water to annual monitoring if:

- a. An annual site visit or sanitary survey is conducted by the department, and all identified sanitary defects are corrected. The waterworks may substitute a voluntary Level 2 assessment for the annual site visit.
- b. The waterworks has a protected water source and maintained a clean compliance history for a minimum of 12 consecutive months following the event.
- c. The waterworks has in place or has adopted one or more of the following additional barriers to contamination: (i) an approved cross-connection control program, (ii) a licensed operator, (iii) continuous disinfection and maintenance of a residual in the distribution system in accordance with criteria specified by the department, (iv) demonstration of maintenance of at least a 4-log removal or inactivation of viruses in accordance with 12VAC5-590-379 A, or (v) other equivalent enhancements approved by the department.

~~10.~~ 12. Seasonal waterworks monitoring.

- a. ~~At~~ A seasonal waterworks shall demonstrate completion of an approved start-up procedure that may include start-up sampling ~~prior to~~ before serving water.

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b. A seasonal waterworks shall monitor every month that it is in operation.

c. The ~~commissioner~~ department may waive any seasonal waterworks from some or all of the requirements for seasonal waterworks if the entire distribution system remains pressurized during the entire period that the waterworks is not operating.

d. Failure to complete an approved start-up procedure ~~prior to~~ before serving water is a treatment technique violation and requires the owner to provide public notification under Tier 2 conditions in ~~12VAC5-590-540~~ 12VAC5-590-540 A 2.

e. Failure to submit certification of completion to the ~~commissioner~~ department after the owner completes an approved start-up procedure is a reporting violation and requires the owner to provide public notification under Tier 3 conditions in 12VAC5-590-540 A 3.

~~14.~~ 13. Additional routine monitoring in the month following a total coliform-positive sample.

a. ~~Owners~~ The owner collecting samples on a quarterly or annual frequency shall collect at least three additional routine samples during the month following one or more total coliform-positive samples, with or without a Level 1 treatment trigger. The owner shall use the results of additional routine samples in coliform treatment technique trigger calculations under 12VAC5-590-392 B.

b. The requirements specified in subdivision A ~~14~~ 13 a of this section may be waived by the ~~commissioner~~ department if:

(1) The ~~commissioner~~ department conducts a site visit before the end of the next month in which the waterworks provides water and has determined whether additional monitoring or corrective action is needed;

(2) The ~~commissioner~~ department has determined why the sample was total coliform positive and has established that the owner corrected the problem or will correct the problem before the end of the next month in which the waterworks serves water. In this case, the decision and the rationale for the decision shall be documented and approved in writing by the ~~commissioner~~ department. The ~~commissioner~~ department shall make this document available to EPA and the public. The documentation shall describe the specific cause of the total coliform-positive sample and what action the owner has taken or will take to correct this problem; or

(3) The ~~commissioner~~ department determines that the owner has corrected the contamination problem before collecting the set of repeat samples required in 12VAC5-590-380 D 3, and all repeat samples are total coliform negative. The ~~commissioner~~ department may waive the requirement for additional routine monitoring the next month.

c. The requirements specified in subdivision A ~~14~~ 13 a of this section may not be waived by the ~~commissioner~~ department solely on the grounds that all repeat samples are total coliform negative.

~~12.~~ 14. [~~Failure to collect every required routine or additional routine sample in a compliance period is a monitoring violation and requires the owner~~ Any one of the following is a monitoring violation: (i) failure to collect every required routine or additional routine sample in a compliance period, and (ii) failure to analyze for E. coli following a total coliform-positive sample. For each violation, the owner is required] to provide public notification under Tier 3 conditions in 12VAC5-590-540 A 3.

~~13.~~ 15. [~~Failure to submit monitoring results after the owner properly conducts monitoring is a reporting violation and requires the owner~~ Any one of the following is a reporting violation: (i) failure to submit monitoring results after the owner properly conducts monitoring, (ii) failure to submit a completed assessment form, and (iii) failure to notify the department following an E. coli-positive sample. The reporting requirements in 12VAC5-590-530 are applicable to this subdivision. For each violation, the owner is required] to provide public notification under Tier 3 conditions in 12VAC5-590-540 A 3.

B. Chemical monitoring. The location of sampling points, the chemicals measured, the frequency, and the timing of sampling within each compliance period shall be established or approved by the ~~commissioner~~ department at the time of issuance of a waterworks operation permit because of changes in this chapter or conditions at the waterworks.

1. The ~~commissioner~~ department may increase required monitoring where necessary to detect variations within the waterworks and to provide quality control for any treatment processes that are employed.

2. Analysis of field composite samples shall not be allowed.

3. Samples for contaminants that may exhibit seasonal variations shall be collected during the period of the year when contamination is most likely to occur.

4. Failure to comply with the sampling schedules in this section [, which includes the collection of confirmation samples cited in 12VAC5-590-382 A for inorganic chemicals, 12VAC5-590-382 B for nitrate and nitrite, and 12VAC5-590-383 A for organic chemicals, is a monitoring violation and] shall require public notification pursuant to 12VAC5-590-540 A 3.

C. The department may allow a consecutive waterworks that obtains potable water from another waterworks to limit monitoring to bacteriological, residual disinfectant, DBPs, and lead and copper.

D. Monitoring requirements for a waterworks developing new sources of source water are provided in 12VAC5-590-820, 12VAC5-590-830, and 12VAC5-590-840.

E. The department may require an owner to collect additional samples to provide quality control for any treatment processes that are employed.

F. Surface water sampling requirements specified in 12VAC5-590-372 through 12VAC5-590-378 apply to GUDI sources.

EDITOR'S NOTE: Text stricken in 12VAC5-590-370 B through D in the proposed regulation has not been further amended, therefore it is not published. See proposed stricken text at [36:6 VA.R. 475-845 November 11, 2019](#).

12VAC5-590-372. Inorganic chemicals monitoring.

A. The owner of a community waterworks or a NTNC shall conduct monitoring to determine compliance with the PMCLs and SMCLs listed in Table 340.1 in accordance with this section. The owner of a TNC shall conduct monitoring to determine compliance with the nitrate, nitrite, and nitrate-nitrite PMCLs listed in Table 340.1 in accordance with this section.

B. If a waterworks draws water from more than one source and the sources are combined before distribution, then the owner shall sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water is representative of all sources being used).

C. When the results of sampling for antimony, arsenic, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, or thallium exceed the applicable PMCL, the owner shall collect a confirmation sample, at the same sampling site, within two weeks of notification of the analytical results of the first sample.

D. Monitoring frequency.

1. Asbestos. The [~~commissioner~~ department] has granted a statewide waiver for asbestos. If the statewide waiver is removed or if site-specific waterworks conditions warrant monitoring for asbestos, then monitoring to determine compliance with the PMCL for asbestos specified in Table 340.1 shall be conducted as follows:

a. The owner of a community waterworks or a NTNC shall monitor for asbestos during the first three-year compliance period of each nine-year compliance cycle.

b. If the statewide waiver is removed, and the owner believes the waterworks is not vulnerable to asbestos contamination from either its source water or due to corrosion of its asbestos-cement pipe, then the owner may apply to the [~~commissioner~~ department] for a monitoring waiver for asbestos. If the [~~commissioner~~ department]

grants the monitoring waiver, then the owner is not required to monitor.

c. The [~~commissioner~~ department] may grant a waiver based on a consideration of the following factors:

(1) Potential asbestos contamination of the source water; and

(2) The use of asbestos-cement pipe for finished water distribution and the corrosive nature of the water.

d. A waiver remains in effect until the completion of the compliance period (i.e., three years).

e. The owner of a waterworks vulnerable to asbestos contamination due solely to corrosion of its asbestos-cement pipe shall collect one sample at a tap served by the asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

f. The owner of a waterworks vulnerable to asbestos contamination due to its source water shall monitor at the entry points.

g. The owner of a waterworks vulnerable to asbestos contamination due both to its source water and corrosion of its asbestos-cement pipe shall collect one sample at a tap served by the asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

h. The owner of a waterworks that exceeds the PMCL as determined in 12VAC5-590-382 A shall monitor quarterly beginning in the next quarter after the exceedance occurred.

i. The department may decrease the quarterly monitoring requirement to the frequency specified in subdivision D 1 a of this section provided the department has determined that the waterworks is reliably and consistently below the PMCL. In no case shall the department make this determination unless the owner of a groundwater system collects a minimum of two quarterly samples or the owner of a waterworks that uses a surface water source, in whole or in part, collects a minimum of four quarterly samples.

2. Antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide (as free cyanide), fluoride, mercury, nickel, selenium, and thallium. Monitoring to determine compliance with the PMCL for these contaminants specified in Table 340.1 shall be conducted as follows:

a. The owner shall collect one sample at each groundwater source entry point during each compliance period.

b. The owner shall collect one sample annually at each surface water source entry point, in whole or in part.

c. The owner may apply to the department for a waiver from the monitoring frequencies specified in subdivisions D 2 a and D 2 b of this section.

(1) A condition of the waiver shall require that the owner collect a minimum of one sample while the waiver is

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effective. The waiver remains in effect for one compliance cycle (i.e., nine years).

(2) The department may grant a waiver provided the owner has monitored surface water source entry points, in whole or in part, annually for at least three years and has conducted a minimum of three rounds of monitoring at groundwater source entry points. At least one sample shall have been collected since January 1, 1990. The owner shall demonstrate that all previous analytical results were less than the PMCL. A waterworks that uses a new groundwater or surface water source is not eligible for a waiver until three rounds of monitoring from the new source have been completed.

(3) In determining the appropriate reduced monitoring frequency, the department shall consider:

(a) The reported concentrations from all previous monitoring;

(b) The degree of variation in reported concentrations; and

(c) Other factors that may affect contaminant concentrations such as changes in groundwater pumping rates, changes in the waterworks configuration, changes in the waterworks operating procedures, or changes in stream flows or characteristics.

(4) A decision by the department to grant a waiver shall be made in writing and shall set forth the basis for the determination. The request for a waiver may be initiated by the department or upon an application by the owner. The owner shall specify the basis for the request. The department shall evaluate and, where appropriate, revise the determination of the appropriate monitoring frequency when the owner submits new monitoring data or when other data relevant to the appropriate monitoring frequency become available.

(5) No arsenic waivers shall be granted by the department.

d. The owner of a waterworks that exceed the PMCLs as calculated in 12VAC5-590-382 shall monitor quarterly beginning in the next quarter after the exceedance occurred. The department may decrease the quarterly monitoring requirement to the frequencies specified in subdivision D 2 a, D 2 b, or D 2 c of this section provided a determination has been made that the analytical results are reliably and consistently below the PMCL. In no case may the department make this determination unless the owner collects a minimum of two quarterly samples from each groundwater source entry point and a minimum of four quarterly samples from each surface water source entry point, in whole or in part.

3. Nitrate and combined nitrate-nitrite as nitrogen. Monitoring to determine compliance with the PMCL for nitrate and combined nitrate-nitrite as nitrogen specified in Table 340.1 shall be conducted as follows:

a. The owner shall collect one sample annually at each groundwater source entry point.

b. The owner shall collect one sample quarterly at each surface water source entry point, in whole or in part.

c. For groundwater source entry points at community and NTNCs, the repeat monitoring frequency shall be quarterly for at least one year following any one sample in which the concentration is greater than 50% of the PMCL. After four consecutive quarters of monitoring, the department may allow the owner to reduce the sampling frequency to annually after determining the results are reliably and consistently less than the PMCL.

d. For surface water source entry points, in whole or in part, the department may allow the owner to reduce the sampling frequency to annually if all analytical results from four consecutive quarters are less than 50% of the PMCL. The waterworks shall return to quarterly monitoring if the concentration found in any one sample is greater than or equal to 50% of the PMCL.

e. After any round of quarterly sampling is completed as required by subdivisions D 3 c and D 3 d of this section, the owner who is monitoring annually shall collect subsequent samples during the quarter that previously resulted in the highest analytical result.

f. No monitoring waivers shall be issued for nitrate or combined nitrate-nitrite as nitrogen.

4. Nitrite. Monitoring to determine compliance with the PMCL for nitrite specified in Table 340.1 shall be conducted as follows:

a. The owner shall collect one sample at each entry point during the initial compliance period.

b. After the initial sample, the owner of a waterworks where an analytical result for nitrite is less than 50% of the PMCL shall monitor at the frequency specified by the department.

c. The repeat monitoring frequency for an owner shall be quarterly for at least one year following any one sample in which the concentration is greater than 50% of the PMCL. The department may allow an owner to reduce the sampling frequency to annually after determining the analysis results are reliably and consistently less than the PMCL.

d. The owner of a waterworks that is monitoring annually shall collect each subsequent sample during the quarter that previously resulted in the highest analytical result.

e. No monitoring waivers shall be issued for nitrite.

5. Aluminum, chloride, copper, corrosivity, fluoride, foaming agents (surfactants), iron, manganese, silver, sulfate, and zinc. Monitoring to determine compliance with the SMCL for these contaminants specified in Table 340.1 shall be conducted as follows:

a. The owner shall collect one sample at each groundwater source entry point during each compliance period.

b. The owner shall collect one sample annually at each surface water source entry point, in whole or in part.

[6. Sodium. All community waterworks shall monitor for sodium as follows:

a. The number of samples to be collected shall be determined by the department based on the waterworks infrastructure and occurrence concentrations where applicable.

(1) The owner shall collect at least one sample annually at each surface water source entry point, in whole or in part.

(2) The owner shall collect one sample at each groundwater source entry point at least every three years.

(3) The department may require the owner to collect and analyze water samples for sodium more frequently where sodium content is variable.

b. Sodium shall be analyzed in accordance with methods and laboratory requirements identified in 12VAC5-590-440.

c. Sample results shall be submitted to the department in accordance with 12VAC5-590-530.

d. The department shall notify local and state health officials of the sodium levels.

e. The results of the special monitoring for sodium shall be included in the Consumer Confidence Report in accordance with 12VAC5-590-545 C 5 f.]

12VAC5-590-373. Organic chemicals monitoring.

A. The owner of a community waterworks or a NTNC shall conduct monitoring to determine compliance with PMCLs listed in Table 340.2 in accordance with this section. Where two or more sources are combined before distribution, the owner shall sample at the entry point for the combined sources during periods of normal operation conditions.

1. The owner of a waterworks that uses groundwater shall collect a minimum of one sample at each entry point.

2. The owner of a waterworks that uses surface water, in whole or in part, shall collect a minimum of one sample at each entry point.

B. During the initial compliance period and each subsequent compliance period, the owner shall monitor during four consecutive calendar quarters for each contaminant listed in Table 340.2. A minimum of one sample at each entry point shall be collected during each calendar quarter.

C. Reduced monitoring.

1. Volatile organic chemicals (VOCs).

a. The requirement for four quarterly samples during [~~the~~] initial monitoring [~~period~~] as specified in subsection B of this section may not be reduced.

b. The department may decrease the requirement for quarterly monitoring during subsequent compliance

periods provided it has been determined that the analytical results are reliably and consistently below the PMCL. [~~In no case shall the department make this determination unless:~~]

(1) [~~In no case shall the department make this determination unless the~~ The] owner collects a minimum of two quarterly samples at each groundwater source entry point; or

(2) The owner collects a minimum of four quarterly samples at each surface water source entry point, in whole or in part.

c. If the department determines that the waterworks is reliably and consistently below the PMCL, then the department may allow the owner to monitor annually. The owner who monitors annually shall monitor during the quarter that previously yielded the highest analytical result.

d. For a groundwater system only. After a minimum of three years of annual sampling, the department may allow the owner with no previous detection of any VOCs listed in Table 340.2 to collect one sample during each compliance period.

e. The owner of a groundwater system that has three consecutive annual samples with no detection of a contaminant may apply to the department for a waiver [~~, in accordance with 12VAC5-590-373 F~~].

2. Synthetic organic chemicals (SOCs).

a. The owner of a waterworks serving more than 3,300 persons that does not detect any SOC listed in Table 340.2 in the initial compliance period may reduce the sampling frequency to a minimum of two quarterly samples in one year during each repeat compliance period.

b. The owner of a waterworks serving fewer than [~~than~~] or equal to 3,300 persons that does not detect any SOC listed in Table 340.2 in the initial compliance period may reduce the sampling frequency to a minimum of one sample during each repeat compliance period.

[~~e. The department may decrease the requirement for quarterly monitoring during subsequent monitoring periods as specified in subsection B of this section provided the analytical results of the four quarterly samples required during the initial monitoring are reliably and consistently below the PMCL.~~

~~d. c.]~~ The department may reduce the [~~increased~~ quarterly] monitoring required by subdivision [~~B or~~] D [~~±~~] of this section provided the department has determined that the analytical results are reliably and consistently below the PMCL. In no case shall the department make this latter determination unless:

(1) The owner collects a minimum of two quarterly samples at each groundwater source entry point.

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(2) The owner collects a minimum of four quarterly samples at each surface water source entry point, in whole or in part.

~~[e. d.]~~ If the department determines that the analytical results are reliably and consistently below the PMCL, the department may allow the owner to monitor annually. The owner of a waterworks that monitors annually shall monitor during the quarter that previously yielded the highest analytical result.

~~[f. e.]~~ The owner of a waterworks that has three consecutive annual samples with no detection of a contaminant may apply to the department for a waiver for SOC monitoring by submitting a waiver application as specified in subdivisions [E F] 1 b and [E F] 2 b of this section. The waiver remains in effect for one compliance period (i.e., three years).

~~[3. Return to compliance. The owner of a waterworks that exceeds the PMCLs listed in Table 340.2 for VOCs or SOCs, as determined by 12VAC5-590-383, shall monitor quarterly. After a minimum of four consecutive quarterly samples that show the waterworks is in compliance as specified in 12VAC5-590-383 and the department determines that the analytical results are reliably and consistently below the PMCL, the owner may monitor at the frequency and time specified in subdivisions C 1 e and C 2 e of this section.]~~

D. Increased monitoring.

1. If the owner of a waterworks that is on reduced monitoring detects a contaminant listed in Table 340.2 (see 12VAC5-590-383 A regarding confirmation samples), then the owner shall monitor quarterly at each sampling point where the contaminant was detected unless:

- a. That contaminant was previously detected and the department determined it was reliably and consistently below the PMCL according to subdivisions C 1 b and C 2 [d c] of this section;
- b. The historical sampling data do not indicate a meaningful increase in the contaminant concentration; and
- c. The contaminant concentration does not exceed the PMCL.

2. [The owner of a waterworks that exceeds the PMCLs listed in Table 340.2 for VOCs or SOCs, as determined by 12VAC5-590-383, shall monitor quarterly.

- a. If, after a minimum of four consecutive quarterly samples that show the waterworks is in compliance as specified in 12VAC5-590-383; and
- b. The department determines that the analytical results are reliably and consistently below the PMCL; then
- c. The owner may monitor at the frequency and time specified in subdivisions C 1 c and C 2 d of this section.

E. Other monitoring requirements.

1.] Vinyl chloride.

a. The owner of a groundwater system that has detected one or more of the following two-carbon organic compounds: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, or 1,1-dichloroethylene, shall monitor quarterly for vinyl chloride. A vinyl chloride sample shall be collected at each sampling point at which one or more of the two-carbon organic compounds were detected. If the results of the first analysis do not detect vinyl chloride, then the department may reduce the quarterly monitoring frequency of vinyl chloride monitoring to one sample during each compliance period.

b. The owner of a waterworks that [uses surface water in whole or in part] is required to monitor for vinyl chloride as specified by the department [~~will monitor at each surface water source entry point, in whole or in part~~].

~~[3. 2.]~~ If monitoring detects one or more of certain related contaminants (heptachlor and heptachlor epoxide), then subsequent monitoring shall analyze for all related contaminants.

~~[4. 3.]~~ For entry points sampled and analyzed for contaminants listed in Table 340.2, the following detection limits apply:

- a. A VOC is detected at a level equal to or greater than 0.0005 mg/L; and
- b. A SOC is detected at a level equal to or greater than defined by EPA under 40 CFR 141.24(h)(18) or by the department.

~~[E. F.]~~ Monitoring waivers.

1. Groundwater source entry points.

a. The owner of a waterworks that does not detect a VOC contaminant listed in Table 340.2 may apply to the department for a waiver from the subsequent compliance period requirements of subsection B and [~~subdivisions subdivision~~] C 1 c [~~and C 1 d~~] of this section after completing the initial monitoring. A waiver shall be effective for no more two compliance periods (i.e., six years).

b. The owner of a waterworks may apply to the department for a SOC monitoring waiver from the requirements of subsection B and subdivision C 2 of this section. The owner must reapply for a waiver for each subsequent compliance period (i.e., three years).

2. Surface water source entry points, in whole or in part.

- a. No VOC monitoring waivers shall be issued.
- b. The owner of a waterworks that does not detect a SOC contaminant listed in Table 340.2 may apply to the [~~commissioner~~ department] for a SOC monitoring waiver from the requirements of subsection B and subdivision C

2 of this section. The owner must reapply for a waiver for each subsequent compliance period (i.e., three years).

3. Monitoring waiver applications. The owner shall submit a monitoring waiver application for evaluation on a form approved by the department. The [~~commissioner~~ department] may grant a waiver after an evaluation of the use, transport, storage, or disposal of any organic contaminant within the watershed or zone of influence of the source.

a. If an evaluation by the department reveals no previous use of the contaminants within the watershed or zone of influence, then a waiver may be granted.

b. If an evaluation by the department reveals either previous use of the contaminants or that use is unknown, then the following factors shall be used to determine whether a waiver is granted:

(1) Previous analytical results.

(2) The proximity of the source water to land use activities that are potential point or nonpoint sources of organic contamination and to potential conduits to groundwater. Point sources include spills and leaks of chemicals at or near a waterworks or at manufacturing, distribution, or storage facilities or from hazardous or municipal waste landfills and other waste handling or treatment facilities. Nonpoint sources for SOCs include the use of pesticides to control insects and weed pests on agricultural areas, forest lands, home and gardens, and other land application uses.

(3) The environmental persistence and transport of the contaminants listed in Table 340.2.

(4) The implementation of [a watershed protection program for surface water systems and] wellhead protection measures [for groundwater systems] by the owner.

(5) For groundwater well sources: well construction, well depth, soil type, geological conditions, and well structure integrity.

(6) Special factors, as follows:

(a) For VOCs, the number of persons served by the waterworks and the proximity of a smaller waterworks to a larger waterworks.

(b) For SOCs, elevated nitrate levels at the waterworks' source water.

(c) For SOCs, use of PCBs in equipment used in the production, storage, or distribution of water (i.e., PCBs used in pumps, transformers, and other equipment).

c. An entry point at which treatment has been installed to remove VOCs or SOCs is not eligible for a monitoring waiver for the VOCs or SOCs for which treatment has been installed.

d. All waterworks are granted a waiver from monitoring dioxin, endothall, and glyphosate unless the department

determines that there is a source of these contaminants that poses a threat to the source water.

4. Condition for waivers.

a. Groundwater source entry points.

(1) As a condition of the VOC waiver, the owner shall collect one sample at each entry point during the time the waiver is effective (i.e., one sample during two compliance periods or six years) [and update the waterworks vulnerability assessment]. Based on this data, the department may reconfirm that the source is [~~non~~susceptible nonvulnerable]. If the department does not make this reconfirmation within three years of the initial determination, then the waiver is invalidated and the owner is required to sample annually.

(2) There are no conditions to SOC waivers.

b. Surface water source entry points, in whole or in part. There are no conditions to VOC and SOC waivers for waterworks in regard to these entry points.

12VAC5-590-374. Residual disinfectant, disinfection byproducts, and disinfection byproduct precursors monitoring.

A. Unless otherwise noted, an owner of a waterworks that uses a chemical disinfectant shall comply with the requirements of this section as follows:

1. The owner of a community waterworks or a NTNC shall comply with this section.

2. The owner of a TNC that uses any combination of a surface water source, a GUDI source, or a groundwater source and uses chlorine dioxide as a disinfectant or oxidant shall comply with all the requirements for chlorine dioxide in this section.

B. The owner shall collect all samples during normal operating conditions.

1. Analysis under this section for DBPs (TTHM, HAA5, chlorite, and bromate) shall be conducted by [a laboratory laboratories] that [~~has~~ have] received certification by the [EPA or] DCLS [as specified in 12VAC5-590-440,] except as noted in subdivisions B 2 and B 3 of this section.

2. Measurement under this section of daily chlorite samples at the entry point to the distribution system, residual disinfectant (free chlorine, combined chlorine, total chlorine, and chlorine dioxide), alkalinity, [bromide,] TOC, SUVA (DOC and UV₂₅₄), pH, and magnesium shall be made by a party approved by the department.

3. Residual disinfectant concentrations for free chlorine, combined chlorine, total chlorine, and chlorine dioxide shall be made using equipment deemed satisfactory by the department.

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C. Monitoring plan. The owner required to monitor under this section shall develop and implement a monitoring plan. The owner shall maintain the plan and make it available for inspection by the department and the general public. The owner of a community waterworks or a NTNC that uses a surface water source, a GUDI source, or both and serves more than 3,300 people shall submit a copy of the monitoring plan to the department no later than the date of the first report required under 12VAC5-590-531 A. The department may also require the plan to be submitted by any other owner. After evaluation, the department may require changes in any of the plan elements. The plan shall include at least the following:

1. Specific locations and schedules with monitoring dates for collecting samples for any parameters included in this section.

2. How the owner will calculate compliance with PMCLs, MRDLs, and treatment techniques.

3. The sampling plan for a consecutive waterworks shall reflect the entire consecutive distribution system.

[4. All new waterworks shall comply with the monitoring location requirements of 40 CFR 141 Subpart U, Initial distribution system evaluations, in the development of the waterworks monitoring plan.]

D. Failure to monitor in accordance with the monitoring plan required under subsection C of this section is a monitoring violation. Failure to monitor shall be treated as a violation for the entire period covered by the annual average where compliance is based on an RAA of monthly or quarterly samples or averages, and the owner's failure to monitor makes it impossible to determine compliance with PMCLs or MRDLs.

E. The owner may use only data collected under the provisions of this section to qualify for reduced monitoring.

F. TTHM and HAA5 monitoring. The owner of a community waterworks or a NTNC shall conduct the LRAA monitoring for TTHM and HAA5 at the frequency given below, unless otherwise indicated.

1. This subdivision establishes monitoring and other requirements for achieving compliance with PMCLs based on the LRAA for TTHM and HAA5, and for achieving compliance with MRDLs for chlorine and chloramines for certain consecutive waterworks.

2. This subdivision applies to a community waterworks or a NTNC that uses a primary or secondary disinfectant other than UV light or delivers water that has been treated with a primary or secondary disinfectant other than UV light.

3. Routine monitoring.

a. If the waterworks is a NTNC serving fewer than 10,000 people, then the owner shall monitor at the location or locations and dates identified in the monitoring plan in

subsection C of this section, updated as required by subdivision F 3 e of this section.

b. The owner shall monitor at no fewer than the number of locations identified in Table 374.1:

EDITOR'S NOTE: Tables 374.1 and 374.2 are not further amended from the proposed regulation, therefore they are not published. View the tables as proposed at [36:6 VA.R. 475-845 November 11, 2019](#).

c. The owner of a waterworks not using disinfection that then begins using a disinfectant other than UV light shall consult with the department to identify compliance monitoring locations. The owner shall develop a monitoring plan under subdivision F 3 e of this section to include those monitoring locations.

d. The owner shall use an approved method listed in 12VAC5-590-440 for TTHM and HAA5 analyses. Analyses shall be conducted by laboratories that have received certification by [the] EPA or DCLS as specified in 12VAC5-590-440.

e. The owner may revise the monitoring plan to reflect changes in treatment, distribution system operations and layout (including new service areas), or other factors that may affect TTHM or HAA5 formation, or for reasons approved by the department after consultation with the department regarding the need for changes and the appropriateness of the changes. If the owner changes monitoring locations, then the owner shall replace existing compliance monitoring locations with the lowest LRAA with new locations that reflect the current distribution system locations with expected high TTHM or HAA5 levels. The department may also require modifications in the monitoring plan. The owner of a waterworks using a surface water source, a GUDI source, or both and serving more than 3,300 people shall submit a copy of the modified monitoring plan to the department before the date the owner is required to comply with the revised monitoring plan.

4. Reduced monitoring.

a. The owner may reduce monitoring to the level specified in Table 374.2 any time the LRAA is less than or equal to 0.040 mg/L for TTHM and less than or equal to 0.030 mg/L for HAA5 at all monitoring locations. The owner may only use data collected under the provisions of this section to qualify for reduced monitoring. In addition, the source water annual average TOC level, before any treatment, shall be less than or equal to 4.0 mg/L at each water treatment plant treating a surface water source, a GUDI source, or both based on monitoring conducted under subsection J of this section.

b. The owner may remain on reduced monitoring as long as the TTHM LRAA is less than or equal to 0.040 mg/L and the HAA5 LRAA is less than or equal to 0.030 mg/L at each monitoring location (for waterworks with quarterly

reduced monitoring) [or each TTHM sample is less than or equal to 0.060 mg/L and each HAA5 sample is less than or equal to 0.045 mg/L (for waterworks with annual or less frequent monitoring)]. In addition, the source water annual average TOC level, before any treatment, shall be less than or equal to 4.0 mg/L at each water treatment plant treating a surface water source or a GUDI source, based on monitoring conducted under subsection J of this section.

c. If the LRAA based on quarterly monitoring at any monitoring location exceeds either 0.040 mg/L for TTHM or 0.030 mg/L for HAA5 or if the annual (or less frequent) sample at any location exceeds either 0.060 mg/L for TTHM or 0.045 mg/L for HAA5, or if the source water annual average TOC level, before any treatment, is greater than 4.0 mg/L at any water treatment plant treating a surface water source, a GUDI source, or both then the owner shall resume routine monitoring under subdivision F 3 of this section or begin increased monitoring if subdivision F 5 of this section applies.

d. A waterworks may return to routine monitoring at the department's discretion.

5. Increased monitoring.

a. The owner of a waterworks required to monitor at a particular location annually or less frequently than annually under subdivision F 3 or F 4 of this section, shall increase monitoring to dual sample sets once per quarter (collected every 90 days) at all locations if a TTHM sample is greater than 0.080 mg/L or a HAA5 sample is greater than 0.060 mg/L at any location.

b. The owner may return to routine monitoring once the waterworks has conducted increased monitoring for at least four consecutive quarters and the LRAA for every monitoring location is less than or equal to 0.060 mg/L for TTHM and less than or equal to 0.045 mg/L for HAA5.

G. Chlorite. The owner of a community waterworks or a NTNC using chlorine dioxide, for disinfection or oxidation, shall conduct monitoring for chlorite.

1. Routine monitoring.

a. The owner shall collect daily samples at the entry point to the distribution system. For any daily sample that exceeds the chlorite PMCL listed in Table 340.6, the owner shall collect additional samples in the distribution system the following day at the locations required by subdivision G 1 c of this section, in addition to the sample required at the entrance to the distribution system.

b. The owner shall collect a three-sample set each month in the distribution system. The owner shall collect one sample at each of the following locations: near the first customer, at a location representative of average residence time, and at a location reflecting maximum residence time in the distribution system. Any additional routine

sampling shall be conducted in the same manner (as three-sample sets, at the specified locations). The owner may use the results of additional monitoring conducted under subdivision G 1 c of this section to meet the requirement for monitoring in this subdivision G 1 b.

c. On each day following a routine sample monitoring result that exceeds the chlorite PMCL listed in Table 340.6 at the entrance to the distribution system, the owner is required to collect three chlorite distribution system samples at the following locations: as close to the first customer as possible, in a location representative of average residence time, and as close to the end of the distribution system as possible (reflecting maximum residence time in the distribution system).

2. Reduced monitoring.

a. Chlorite monitoring at the entrance to the distribution system required by subdivision G 1 a of this subsection may not be reduced.

b. Chlorite monitoring in the distribution system required by subdivision G 1 b of this section may be reduced to one three-sample set per quarter after one year of monitoring where no individual chlorite sample collected in the distribution system under subdivision G 1 b of this section has exceeded the chlorite PMCL listed in Table 340.6 and the owner has not been required to conduct monitoring under subdivision G 1 c of this section. The owner may remain on the reduced monitoring schedule until either any of the three individual chlorite samples collected quarterly in the distribution system under subdivision G 1 b of this section exceeds the chlorite PMCL or the owner is required to conduct monitoring under subdivision G 1 c of this section, at which time the owner shall revert to routine monitoring.

H. Bromate.

1. The owner of a community waterworks or a NTNC water treatment plant using ozone for disinfection or oxidation shall collect one sample per month and analyze it for bromate. The owner shall collect samples monthly at the entrance to the distribution system while the ozonation system is operating under normal conditions.

2. The owner required to analyze for bromate may reduce monitoring from monthly to quarterly if the waterworks RAA bromate concentration is less than or equal to 0.0025 mg/L based on monthly bromate measurements under subdivision H 1 of this section for the most recent four quarters. If a waterworks has qualified for reduced bromate monitoring under this subdivision, then the owner may remain on reduced monitoring as long as the RAA of quarterly bromate samples is equal to or less than 0.0025 mg/L. If the RAA bromate concentration is greater than 0.0025 mg/L, then the owner shall resume routine monitoring required by subdivision H 1 of this section.

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I. Monitoring requirements for the residual disinfectant.

1. Chlorine and chloramines.

a. The owner of a waterworks that uses chlorine or chloramines shall measure the residual disinfectant level in the distribution system at the same point in the distribution system and at the same time as total coliform bacteria are sampled, as specified in 12VAC5-590-370 A and 12VAC5-590-380 D. The owner of a waterworks using a surface water source, a GUDI source, or both may use the results of the residual disinfectant concentration sampling found in 12VAC5-590-376 D instead of collecting separate samples.

b. Residual disinfectant level monitoring may not be reduced.

2. Chlorine dioxide.

a. The owner of a waterworks that uses chlorine dioxide for disinfection or oxidation shall collect daily samples at the entrance to the distribution system. For any daily sample that exceeds the MRDL listed in Table 340.7, the owner shall collect samples in the distribution system the following day at the locations required by subdivision I 2 b of this section, in addition to the sample required at the entrance to the distribution system.

b. On each day following a routine sample monitoring result that exceeds the MRDL listed in Table 340.7, the owner is required to collect three chlorine dioxide distribution system samples. If chlorine dioxide or chloramines are used to maintain a residual disinfectant in the distribution system, or if chlorine is used to maintain a residual disinfectant in the distribution system and there is no rechlorination after the entry point, then the owner shall collect three samples as close to the first customer as possible, at intervals of at least six hours. If chlorine is used to maintain a residual disinfectant in the distribution system and there are one or more rechlorination points after the entry point, then the owner shall collect one sample at each of the following locations: as close to the first customer as possible, in a location representative of average residence time, and as close to the end of the distribution system as possible (reflecting maximum residence time in the distribution system).

c. Chlorine dioxide monitoring may not be reduced.

3. Ozone. Ozone residual levels shall be monitored continuously and recorded. A portable ozone meter is recommended as a backup.

4. Additional monitoring and reporting requirements are specified in 12VAC5-590-500 to demonstrate log inactivation or removal of Giardia lamblia, virus, and Cryptosporidium.

J. Monitoring requirements for DBPPs.

1. The owner of a community waterworks or a NTNC using a surface water source, a GUDI source, or both and using conventional filtration treatment, as defined in 12VAC5-590-10, shall monitor each water treatment plant for TOC no later than the point of CFE turbidity monitoring and representative of the treated water. The owner shall also monitor for TOC in the source water before any treatment at the same time as monitoring for TOC in the treated water. These samples (source water and treated water) are referred to as paired samples. At the same time as the source water sample is collected, the owner shall monitor for alkalinity in the source water before any treatment. The owner shall collect one paired sample and one source water alkalinity sample per month per water treatment plant at a time representative of normal operating conditions and influent water quality.

2. The owner of a community waterworks or a NTNC that uses a surface water source, a GUDI source, or both with an average treated water TOC of less than 2.0 mg/L for two consecutive years, or less than 1.0 mg/L for one year, may reduce monitoring for both TOC and alkalinity to one paired sample and one source water alkalinity sample per water treatment plant per quarter. The owner shall revert to routine monitoring in the month following the quarter when the annual average treated water TOC is equal to or greater than 2.0 mg/L.

12VAC5-590-375. Lead and copper monitoring.

A. The ~~owners~~ owner of all a community and ~~nontransient noncommunity waterworks~~ waterworks or a NTNC shall monitor for lead and copper in tap water (subsection B of this section), water quality (corrosion) parameters in the distribution system and at entry points (subsection C of this section), and lead and copper in water supplies (subsection D of this section).

B. Monitoring requirements for lead and copper in tap water.

1. Sample site location.

a. By the ~~commissioner~~ ~~determined~~ date determined by the department for commencement of monitoring under subdivision B 4 a of this section, ~~each~~ the owner shall complete a materials evaluation of the distribution system ~~in order~~ to identify a pool of targeted sampling sites that meets the requirements of this subdivision, and that is sufficiently large to ensure that the owner can collect the number of lead and copper tap samples required in subdivision B 3 of this section. All sites from which ~~first draw~~ first-draw samples are collected shall be selected from this pool of targeted sampling sites. Sampling sites may not include faucets that have ~~point-of-use~~ POU devices or ~~point-of-entry~~ ~~treatment~~ POE devices designed to remove inorganic contaminants.

b. When the distribution system evaluation required in subdivision B 1 a of this section is insufficient to locate

the requisite number of lead and copper sampling sites that meet the targeting criteria of this section, the owner shall review the sources of information listed ~~below in order in~~ subdivisions B 1 b (1), B 1 b (2), and B 1 b (3) of this section to identify a sufficient number of sampling sites. In addition, the owner shall seek to collect such information where possible in the course of its normal operations (e.g., checking service line materials when reading water meters or performing maintenance activities):

(1) All plumbing codes, permits, and records in the files of the building department ~~or departments~~ that indicate the plumbing materials that are installed within publicly and privately owned structures connected to the distribution system;

(2) All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system; and

(3) All existing water quality information, which includes the results of all prior analyses of the waterworks or individual structures connected to the waterworks, indicating locations that may be particularly susceptible to high lead or copper concentrations.

c. The sampling sites selected for a community waterworks' sampling pool (~~tier 1~~ Tier 1 sampling sites) shall consist of ~~single-family~~ single-family structures that:

(1) Contain copper pipes with lead solder installed between January 1983 and April 1986 or contain lead pipes; or

(2) Are served by a lead service line.

NOTE: When multiple-family residences comprise at least 20% of the structures served by a waterworks, the owner may include these types of structures in the sampling pool.

d. The owner of ~~any~~ a community waterworks with insufficient ~~tier~~ Tier 1 sampling sites shall complete the sampling pool with ~~tier~~ Tier 2 sampling sites consisting of buildings, including multiple-family residences that:

(1) Contain copper pipes with lead solder installed between January 1983 and April 1986 or contain lead pipes; or

(2) Are served by a lead service line.

e. The owner of ~~any~~ a community waterworks with insufficient ~~tier~~ Tier 1 and ~~tier~~ Tier 2 sampling sites shall complete the sampling pool with ~~tier~~ Tier 3 sampling sites, consisting of single family structures that contain copper pipes with lead solder installed before 1983. The owner of a community waterworks with insufficient ~~tier~~ Tier 1, ~~tier~~ Tier 2, and ~~tier~~ Tier 3 sampling sites shall complete the sampling pool with representative sites throughout the distribution system. For the purpose of this subdivision, a representative site is a site in which the plumbing

materials used at that site would be commonly found at other sites served by the waterworks.

f. The sampling sites selected for a ~~nontransient noncommunity waterworks~~ (~~tier 1~~ NTNC (Tier 1 sampling sites) shall consist of buildings that:

(1) Contain copper pipes with lead solder installed between January 1983 and April 1986 or contain lead pipes; or

(2) Are served by a lead service line.

g. The owner of a ~~nontransient noncommunity waterworks~~ NTNC with insufficient ~~tier~~ Tier 1 sites that meet the targeting criteria in subdivision B 1 f of this section shall complete the sampling pool with sampling sites that contain copper pipes with lead solder installed before 1983. If additional sites are needed to complete the sampling pool, the owner of a ~~nontransient noncommunity waterworks~~ NTNC shall use representative sites throughout the distribution system. For the purpose of this subdivision, a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the waterworks.

h. The owner of ~~any~~ a waterworks whose distribution system contains lead service lines shall draw 50% of the samples the owner collects during each monitoring period from sites that contain lead pipes, or copper pipes with lead solder, and 50% of the samples the owner collects from sites served by a lead service line. ~~Any~~ The owner who cannot identify a sufficient number of sampling sites served by a lead service line shall collect ~~first-draw~~ first-draw tap samples from all of the sites identified as being served by ~~such~~ these lines.

2. Sample collection methods.

a. All tap samples for lead and copper, with the exception of lead service line samples collected under 12VAC5-590-405 C 4 and samples collected under subdivision B 2 e of this section, shall be ~~first-draw~~ first-draw samples.

b. Each first-draw tap sample for lead and copper shall be one liter in volume, ~~and~~ have stood motionless in the plumbing system of each sampling site for at least six hours, and have been collected without flushing the tap. ~~First-draw~~ First-draw samples from residential housing shall be collected from the cold-water kitchen tap or ~~from~~ a bathroom sink tap. First-draw samples from a nonresidential building shall be one liter in volume and shall be collected at an interior tap from which water is typically drawn for consumption. Non-first-draw samples collected ~~in lieu of~~ instead of first-draw samples pursuant to subdivision B 2 e of this section shall be one liter in volume and shall be collected at an interior tap from which water is typically drawn for consumption. ~~First-draw~~ First-draw samples may be collected by the owner or the owner may allow residents to collect ~~first-draw~~ first-draw samples after instructing the residents of the sampling

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procedures specified in this subdivision. To avoid problems of residents handling nitric acid, acidification of ~~first draw~~ first-draw samples may be done up to 14 days after the sample is collected. After acidification to resolubilize the metals, the sample must stand in the original container for the time specified in the approved EPA method before the sample can be analyzed. If an owner allows residents to perform sampling, then the owner may not challenge, based on alleged errors in sample collection, the accuracy of sampling results.

c. Each lead service line sample collected pursuant to 12VAC5-590-405 C 4 for the purpose of avoiding replacement shall be one liter in volume and have stood motionless in the lead service line for at least six hours. Lead service line samples shall be collected in one of the following three ways:

- (1) At the tap after flushing the volume of water between the tap and the lead service line. The volume of water shall be calculated based on the interior diameter and length of the pipe between the tap and the lead service line;
- (2) Tapping directly into the lead service line; or
- (3) If the sampling site is a building constructed as a single-family residence, then allowing the water to run until there is a significant change in temperature that would be indicative of water that has been standing in the lead service line.

d. ~~An~~ The owner shall collect each ~~first draw~~ first-draw tap sample from the same sampling site from which the owner collected a previous sample. If, for any reason, the owner cannot gain entry to a sampling site ~~in order~~ to collect a follow-up tap sample, then the owner may collect the follow-up tap sample from another sampling site in the sampling pool as long as the new site meets the same targeting criteria and is within reasonable proximity of the original site.

e. The owner of a ~~nontransient noncommunity waterworks~~ NTNC, or a community waterworks that meets the criteria of 12VAC5-590-405 D 2 e (2) that does not have enough taps that can supply first-draw samples, as defined in subdivision B 2 b of this section, may apply to the ~~district engineer~~ department in writing to substitute non-first-draw samples. If approved by the ~~commissioner~~ department, ~~such owners~~ then an owner shall collect as many first-draw samples from appropriate taps as possible and identify sampling times and locations that would likely result in the longest standing time for the remaining sites.

3. Number of samples.

a. ~~Owners~~ The owner shall collect at least one sample during each monitoring period specified in subdivision B 4 of this section from the number of sites listed in the first column (standard monitoring) of ~~the table in subdivision B 3 e of this section~~ Table 375.1. The owner of a

waterworks conducting reduced monitoring under subdivision B 4 d of this section shall collect at least one sample from the number of sites specified in the second column (reduced monitoring) of ~~the table in subdivision B 3 e of this section~~ Table 375.1 during each monitoring period specified in subdivision B 4 d of this section. ~~Such~~ Reduced monitoring sites shall be representative of the sites required for standard monitoring. The ~~commissioner~~ department may specify sampling locations when an owner is conducting reduced monitoring.

b. The owner of a waterworks that has fewer than five drinking water taps that are normally used for human consumption meeting the sample site criteria of subdivision B 1 of this section to reach the required number of sample sites listed in ~~the table in subdivision B 3 e of this section~~ Table 375.1 shall collect at least one sample from each tap and then shall collect additional samples from those taps on different days during the monitoring period to meet the required number of sites. Alternatively, the ~~commissioner~~ department may allow ~~these owners~~ the owner to collect a number of samples less than the number of sites specified in ~~the table in subdivision B 3 e of this section~~ Table 375.1, provided that 100% of all taps that are normally used for human consumption are sampled. The ~~commissioner~~ department shall approve this reduction of the minimum number of samples in writing based on a request from the owner or onsite verification by the ~~district engineer~~ designated department representative.

c. The lead and copper tap sample table is as follows:

<u>TABLE 375.1</u> <u>Tap Samples for Lead and Copper</u>		
<u>System Size</u> <u>WATERWORKS</u> <u>SIZE</u> (Number of People Served)	<u>Number of Sites</u> <u>NUMBER OF</u> <u>SITES</u> (Standard Monitoring)	<u>Number of Sites</u> <u>NUMBER</u> <u>OF SITES</u> (Reduced Monitoring)
greater <u>Greater</u> than 100,000	100	50
10,001-100,000	60	30
3,301 to 10,000	40	20
501 to 3,300	20	10
101 to 500	10	5
less <u>Less</u> than or equal to 100	5	5

4. Timing of monitoring.

a. Initial tap sampling. The first six-month monitoring period for small (serving less than 3,300 population), ~~medium size~~ medium (serving 3,301 to 50,000

population), and large waterworks (serving greater than 50,000 population) shall be established by the ~~commissioner~~ department.

(1) ~~Owners~~ The owner of ~~all a~~ large waterworks shall monitor during two consecutive six-month periods.

(2) ~~Owners~~ The owner of ~~all a small and medium size or a medium~~ waterworks shall monitor during each six-month monitoring period until the waterworks exceeds the lead or copper ~~action level~~ AL and is therefore required to implement the corrosion control treatment requirements under 12VAC5-590-405 A 2, in which case the owner shall continue monitoring in accordance with subdivision B 4 b of this section, or the waterworks meets the lead and copper ~~action levels~~ ALs during two consecutive six-month monitoring periods, in which case the owner may reduce monitoring in accordance with subdivision B 4 d of this section.

b. Monitoring after installation of corrosion control and ~~water supply (source water)~~ source water treatment.

(1) The owner of ~~any a~~ large waterworks that installs optimal corrosion control treatment pursuant to 12VAC5-590-405 A 2 d (4) shall monitor during two consecutive six-month monitoring periods by the date specified in 12VAC5-590-405 A 2 d (5).

(2) The owner of ~~any a small or medium size a medium~~ waterworks that installs optimal corrosion control treatment pursuant to 12VAC5-590-405 A 2 e (5) shall monitor during two consecutive six-month monitoring periods by the date specified in 12VAC5-590-405 A 2 d e (6).

(3) The owner of ~~any a~~ waterworks that installs source water treatment pursuant to 12VAC5-590-405 B 1 c shall monitor during two consecutive six-month monitoring periods by the date specified in 12VAC5-590-405 B 1 d.

c. Monitoring after the ~~commissioner~~ department specifies water quality parameter values for optimal corrosion control. After the ~~commissioner~~ department specifies the values for water quality control parameters under 12VAC5-590-405 A 1 f, the owner shall monitor during each subsequent six-month monitoring period, with the first monitoring period to begin on the date the ~~commissioner~~ department specifies the optimal values.

d. Reduced monitoring.

(1) The owner of a small or ~~medium size a medium~~ waterworks that meets the lead and copper ~~action levels~~ ALs during each of two consecutive six-month monitoring periods may reduce the number of samples in accordance with subdivision B 3 of this section, and reduce the frequency of sampling to once per year. The owner of a small or a medium ~~water system waterworks~~ collecting fewer than five samples, as specified in subdivision B 3 b of this section, that meets the lead and copper ~~action levels~~ ALs during each of two consecutive six-month monitoring

periods may reduce the frequency of sampling to once per year. In no case may the owner reduce the number of samples required below the minimum of one sample per available tap. This sampling shall begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.

(2) The owner of ~~any a~~ waterworks that meets the lead ~~action level~~ AL and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the ~~commissioner~~ department under 12VAC5-590-405 A 1 f during each of two consecutive six-month monitoring periods may reduce the frequency of monitoring to once per year and to reduce the number of lead and copper samples in accordance with subdivision B 3 of this section if the owner receives written approval from the ~~commissioner~~ department. This sampling shall begin during the calendar year immediately following the end of the second consecutive six-month monitoring period. The ~~commissioner must review~~ department shall evaluate monitoring, treatment, and other relevant information submitted by the owner in accordance with ~~12VAC5-590-530 F~~ 12VAC5-590-532 and ~~must shall~~ notify the owner in writing when a determination is made that the owner is eligible to commence reduced monitoring pursuant to this subdivision. The ~~commissioner must review,~~ department shall evaluate and, where appropriate, revise ~~his the~~ determination when the owner submits new monitoring or treatment data; or when other data relevant to the number and frequency of tap sampling becomes available.

(3) The owner of a small or ~~medium size a medium~~ waterworks that meets the lead and copper ~~action levels~~ ALs during three consecutive years of monitoring may reduce the frequency of monitoring for lead and copper from annually to once every three years. The owner of ~~any a~~ waterworks that meets the lead ~~action level~~ AL and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the ~~commissioner~~ department under 12VAC5-590-405 A 1 f during three consecutive years of monitoring may reduce the frequency of monitoring from annually to once every three years if the owner receives written approval from the ~~commissioner~~ department. Samples collected once every three years shall be collected no later than every third calendar year. The ~~commissioner must review,~~ department shall evaluate monitoring, treatment, and other relevant information submitted by the owner in accordance with ~~12VAC5-590-530 F~~ 12VAC5-590-532 and ~~must shall~~ notify the owner in writing when a determination is made that the owner is eligible to commence reduced monitoring pursuant to this subdivision. The ~~commissioner must review,~~ department shall evaluate and where appropriate, revise ~~his the~~ determination when the owner submits new monitoring or

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treatment data, or when other data relevant to the number and frequency of tap sampling becomes available.

(4) The owner of a waterworks that reduces the number and frequency of sampling shall collect these samples from representative sites included in the pool of targeted sampling sites identified in subdivision B 1 of this section. ~~Owners~~ The owner sampling annually or less frequently shall conduct the lead and copper tap sampling during the months of June, July, August, or September. For a ~~nontransient noncommunity waterworks~~ NTNC that does not operate during the months of June through September, the ~~commissioner~~ department shall designate an alternate monitoring period that represents a time of normal operation for the waterworks. This sampling shall begin in the calendar year immediately following the end of the second consecutive six-month monitoring period ~~of for the owners~~ owner initiating annual monitoring, and during the three-year period following the end of the third consecutive calendar year of annual monitoring for the ~~owners~~ owner initiating triennial monitoring.

(5) The owner of ~~any a~~ a waterworks that demonstrates for two consecutive six-month monitoring periods that the tap water lead level computed under 12VAC5-590-385 C is less than or equal to 0.005 mg/L and the tap water copper level computed under 12VAC5-590-385 C is less than or equal to 0.65 mg/L may reduce the number of samples in accordance with subdivision B 3 of this section and reduce the frequency of sampling to once every three calendar years.

(6) The owner of a small or ~~medium-size~~ a medium waterworks subject to reduced monitoring that exceeds the lead or copper ~~action-level~~ AL shall resume sampling in accordance with subdivision B 4 c of this section and collect the number of samples specified for standard monitoring under subdivision B 3 of this section. ~~Such~~ The owner shall also conduct water quality parameter monitoring in accordance with ~~subdivision C 2, 3, or 4~~ subdivisions C 2, C 3, and C 4 of this section (as appropriate) during the monitoring period in which the ~~action-level~~ AL is exceeded. The owner of ~~any such a~~ a waterworks may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in subdivision B 3 of this section after it has completed two subsequent consecutive six-month rounds of monitoring that meet the criteria of subdivision B 4 d (1) of this section or may resume triennial monitoring for lead and copper at the reduced number of sites after it demonstrates through subsequent rounds of monitoring that it meets the criteria of either subdivision B 4 d (3) or B 4 d (5) of this section.

(7) The owner of ~~any a~~ a waterworks subject to the reduced monitoring frequency that fails to meet the lead ~~action-level~~ ALs during any four-month monitoring period or that fails to operate at or above the minimum value or within

the range of values for the water quality parameters specified by the ~~commissioner~~ department under 12VAC5-590-405 A 1 f for more than nine days in any six-month period specified in subdivision C 4 of this section shall conduct tap water sampling for lead and copper at the frequency specified in subdivision B 4 c of this section, collect the number of samples specified for standard monitoring under subdivision B 3 of this section, and resume monitoring for water quality parameters within the distribution system in accordance with subdivision C 4 of this section. This standard tap water sampling shall begin no later than the six-month period beginning January 1 of the calendar year following the lead ~~action-level~~ AL exceedance or water quality parameter excursion. The owner of such a waterworks may resume reduced monitoring for lead and copper at the tap and for water quality parameters within the distribution system under the following conditions:

(a) The owner may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in subdivision B 3 of this section after completion of two subsequent six-month rounds of monitoring that meet the criteria of subdivision B 4 d ~~2~~ (2) of this section and the owner has received written approval from the ~~commissioner~~ department that it is appropriate to resume reduced monitoring on an annual frequency. This sampling shall begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.

(b) The owner may resume triennial monitoring for lead and copper at the tap at the reduced number of sites after demonstration through subsequent rounds of monitoring that it meets the criteria of either subdivision B 4 d (3) or B 4 d (5) of this section and the owner has received written approval from the ~~commissioner~~ department that it is appropriate to resume triennial monitoring.

(c) The owner may reduce the number of water quality parameter tap water samples required in accordance with subdivision C 5 a of this section and the frequency with which it collects ~~such these~~ these samples in accordance with subdivision C 5 b of this section. The owner of such a waterworks may not resume triennial monitoring for water quality parameters at the tap until it demonstrates, in accordance with the requirements of subdivision C 5 b of this section, that it has requalified for triennial monitoring.

(8) The owner of ~~any a~~ a waterworks subject to a reduced monitoring frequency under subdivision B 4 d of this section shall notify the ~~district engineer~~ department in writing in accordance with 12VAC5-590-530 ~~F-4-e~~ and 12VAC5-590-532 of any upcoming long-term change in the treatment or addition of a new water source water as described in this section. The ~~commissioner~~ department ~~must review~~ shall evaluate and approve the addition of a new water source water or long-term change in the water

treatment before it is implemented by the owner. The ~~commissioner~~ department may require the owner to resume sampling in accordance with subdivision B 4 c of this section and collect the number of samples specified for standard monitoring under subdivision B 3 of this section or take other appropriate steps such as increased water quality parameter monitoring or re-evaluation of its corrosion control treatment given the potentially different water quality considerations.

5. Additional monitoring by owner. The results of ~~any~~ monitoring conducted in addition to the minimum requirements of this section shall be considered by the owner and the ~~commissioner~~ department in making ~~any~~ determinations (i.e., calculating the 90th percentile lead or copper level) under 12VAC5-590-385 C.

6. Invalidation of lead or copper tap water samples. A sample invalidated under this subdivision does not count toward determining lead or copper 90th percentile levels under 12VAC5-590-385 C or toward meeting the minimum monitoring requirements of subdivision B 3 of this section.

a. The ~~commissioner~~ department may invalidate a lead or copper tap water sample if at least one of the following conditions is met:

(1) The laboratory establishes that improper sample analysis caused erroneous results.

(2) The ~~commissioner~~ department determines that the sample was ~~taken~~ collected from a site that did not meet the site selection criteria of this section.

(3) The sample container was damaged in transit.

(4) There is substantial reason to believe that the sample was subject to tampering.

b. The owner shall report the results of all samples to the ~~district engineer~~ department and all supporting documentation for samples the owner believes should be invalidated.

c. To invalidate a sample under subdivision B 6 a of this section, the decision and the rationale for the decision shall be documented in writing. The ~~commissioner~~ department may not invalidate a sample solely on the grounds that a follow-up sample result is higher or lower than that of the original sample.

d. The owner shall collect a replacement sample ~~samples~~ sample for ~~any samples~~ a sample invalidated under this section if, after the invalidation of one or more samples, the owner has too few samples to meet the minimum requirements of subdivision B 3 of this section. ~~Any such~~ A replacement ~~samples~~ sample shall be ~~taken~~ collected as soon as possible, but no later than 20 days after the date the [~~commissioner~~ department] invalidates the sample or by the end of the applicable monitoring period, whichever occurs later. Replacement samples ~~taken~~ collected after the end of the applicable monitoring period shall not also

be used to meet the monitoring requirements of a subsequent monitoring period. The replacement samples shall be ~~taken~~ collected at the same locations as the invalidated samples or, if that is not possible, at locations other than those already used for sampling during the monitoring period.

7. Monitoring waivers for small waterworks. The owner of ~~any a~~ small waterworks that meets the criteria of this subdivision may apply to the ~~commissioner~~ department to reduce the frequency of monitoring for lead and copper to once every nine years (i.e., a full waiver) if the owner meets all of the materials criteria specified in subdivision B 7 a of this section and all of the monitoring criteria specified in subdivision B 7 b of this section. The owner of ~~any a~~ small waterworks that meets the criteria in subdivisions B 7 a and B 7 b of this section only for lead, or only for copper, may apply to the ~~commissioner~~ department for a waiver to reduce the frequency of tap water monitoring to once every nine years for that contaminant only (i.e., a partial waiver).

a. Materials criteria. The owner shall demonstrate that the distribution system ~~and service lines and all drinking water supply plumbing and plumbing connected to the waterworks,~~ including plumbing conveying drinking water within all residences and buildings connected to the waterworks, are free of lead-containing materials or copper-containing materials, as those terms are defined in this subdivision, as follows:

(1) Lead. To qualify for a full waiver, or a waiver of the tap water monitoring requirements for lead (i.e., a lead waiver), the owner shall provide certification and supporting documentation to the ~~commissioner~~ department that the waterworks is free of all lead-containing materials, as follows:

(a) It contains no plastic pipes that contain lead plasticizers, or plastic service lines that contain lead plasticizers; ~~and~~

~~(b) It is free of lead service lines, lead pipes, lead soldered pipe joints, and leaded brass or bronze alloy fittings and fixtures, unless such fittings and fixtures meet the specifications of any standard established pursuant to 42 USC § 300g-6(e) (SDWA § 1417(e)).~~

(b) Solders and flux contain no more than 0.2% lead; and

(c) The weighted average of wetted surface of pipes, pipe fittings, plumbing fittings, and plumbing fixtures contain no more than 0.25% lead.

(2) Copper. To qualify for a full waiver, or a waiver of the tap water monitoring requirements for copper (i.e., a copper waiver), the owner shall provide certification and supporting documentation to the ~~commissioner~~ department that the waterworks contains no copper pipes or copper service lines.

b. Monitoring criteria for waiver issuance. The owner shall have completed at least one six-month round of standard

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tap water monitoring for lead and copper at sites approved by the ~~commissioner~~ department and from the number of sites required by subdivision B 3 of this section and demonstrate that the 90th percentile levels for any and all rounds of monitoring conducted since the owner became free of all lead-containing or copper-containing materials, as appropriate, meet the following criteria:

(1) Lead levels. To qualify for a full waiver, or a lead waiver, the owner shall demonstrate that the 90th percentile lead level does not exceed 0.005 mg/L.

(2) Copper levels. To qualify for a full waiver, or a copper waiver, the owner shall demonstrate that the 90th percentile copper level does not exceed 0.65 mg/L.

c. ~~Commissioner~~ Department approval of waiver application. The ~~commissioner~~ department shall notify the owner of the waiver determination, in writing, setting forth the basis of ~~his~~ the decision and any condition of the waiver. As a condition of the waiver, the ~~commissioner~~ department may require the owner to perform specific activities (e.g., limited monitoring, periodic outreach to customers to remind them to avoid installation of materials that might void the waiver) to avoid the risk of lead or copper concentration of concern in tap water. The owner of a small waterworks shall continue monitoring for lead and copper at the tap as required by subdivisions B 4 a through B 4 d of this section, as appropriate, until it receives written notification from the ~~commissioner~~ department that the waiver has been approved.

d. Monitoring frequency for owners with waivers.

(1) ~~Any~~ The owner with a full waiver shall conduct tap water monitoring for lead and copper in accordance with subdivision B 4 d (4) of this section at the reduced number of sampling sites identified in subdivision B 3 of this section at least once every nine years and provide the materials certification specified in subdivision B 7 a of this section for both lead and copper to the ~~commissioner~~ department along with the monitoring results. Samples collected every nine years shall be collected no later than every ninth calendar year.

(2) ~~Any~~ The owner with a partial waiver shall conduct tap water monitoring for the waived contaminant in accordance with subdivision B 4 d (4) of this section at the reduced number of sampling sites specified in subdivision B 3 of this section at least once every nine years and provide the materials certification specified in subdivision B 7 a of this section pertaining to the waived contaminant along with the monitoring results. ~~Such an~~ The owner also shall continue to monitor for the nonwaived contaminant in accordance with requirements of subdivisions B 4 a through B 4 d of this section, as appropriate.

(3) ~~Any~~ The owner with a full or partial waiver shall notify the ~~district engineer~~ department in writing in accordance with ~~12VAC5-590-530 F 1 e~~ 12VAC5-590-532 B 3 of any upcoming long-term change in the treatment or addition of

a new source water, as described in ~~that section~~ 12VAC5-590-532. The ~~commissioner~~ department shall evaluate and approve the addition of a new source water or a long-term change in water treatment before it is implemented by the owner. The ~~commissioner~~ department has the authority to require the owner to add or modify waiver conditions (e.g., require recertification that the waterworks is free of lead-containing or copper-containing materials; require additional round or rounds of monitoring), if it deems ~~such~~ these modifications are necessary to address treatment or source water changes at the waterworks.

(4) If an owner with a full or partial waiver becomes aware that it is no longer free of lead-containing or copper-containing materials, as appropriate; (e.g., as a result of new construction or repairs), then the owner shall notify the ~~district engineer~~ department in writing no later than 60 days after becoming aware of ~~such a~~ the change.

e. Continued eligibility. If the owner continues to satisfy the requirements of subdivision B 7 d of this section, then the waiver will be renewed automatically, unless any of the conditions listed in ~~subdivisions~~ subdivision B 7 e (1), B 7 e (2), or B 7 e (3) of this section occurs. ~~An~~ The owner whose waiver has been revoked may reapply for a waiver ~~at such time as it~~ when the owner again meets the appropriate materials and monitoring criteria of subdivisions B 7 a and B 7 b of this section.

(1) A waterworks with a full waiver or a lead waiver no longer satisfies the materials criteria of subdivision B 7 a (1) of this section or has a 90th percentile lead level greater than 0.005 mg/L.

(2) A waterworks with a full waiver or a copper waiver no longer satisfies the materials criteria of subdivision B 7 a (2) of this section or has a 90th percentile copper level greater than 0.65 mg/L.

(3) The ~~commissioner~~ department notifies the owner, in writing, that the waiver has been revoked, setting forth the basis of the decision.

f. Requirements following waiver revocation. A waterworks whose full or partial waiver has been revoked by the ~~commissioner~~ department is subject to the corrosion control treatment and lead and copper tap water monitoring requirements, as follows:

(1) If the waterworks exceeds the lead or copper ~~action level~~ AL, then the owner shall implement corrosion control treatment in accordance with the deadlines specified in 12VAC5-590-405 A 2 e and any other applicable requirements of this section.

(2) If the waterworks meets both the lead and the copper ~~action level~~ ALs, then the owner shall monitor for lead and copper at the tap no less frequently than once every three years using the reduced number of sample sites specified in subdivision B 3 of this section.

g. Pre-existing waivers. Waivers for small waterworks approved by the ~~commissioner~~ department in writing prior to before April 11, 2000, shall remain in effect under the following conditions:

(1) If the waterworks has demonstrated that it is both free of lead-containing and copper-containing materials, as required by subdivision B 7 a of this section and that its 90th percentile lead levels and 90th percentile copper levels meet the criteria of subdivision B 7 b of this section, then the waiver ~~remains~~ will remain in effect so long as the owner continues to meet the waiver eligibility criteria of subdivision B 7 e of this section. The first round of tap water monitoring conducted pursuant to subdivision B 7 d of this section shall be completed no later than nine years after the last time the owner has monitored for lead and copper at the tap.

(2) If the waterworks has met the materials criteria of subdivision B 7 a of this section but has not met the monitoring criteria of subdivision B 7 b of this section, then the owner shall conduct one six-month round of standard tap water monitoring for lead and copper at sites approved by the ~~commissioner~~ department demonstrating that it meets the criteria of subdivision B 7 b of this section. Thereafter, the waiver shall remain in effect as long as the owner meets the continued eligibility criteria of subdivision B 7 e of this section. The first round of tap water monitoring conducted pursuant to subdivision B 7 d of this section shall be completed no later than nine years after the round of monitoring conducted pursuant to subdivision B 7 b of this section.

C. Monitoring requirements for water quality parameters. The owners of all large waterworks and all small and ~~medium-size~~ medium waterworks that exceed the lead or copper ~~action level~~ AL shall monitor for water quality parameters in addition to lead and copper in accordance with this section.

1. General requirements.

a. Sample collection methods.

(1) Tap samples shall be representative of water quality throughout the distribution system taking into account the number of persons served, the different sources of water, the different treatment methods employed by the waterworks, and seasonal variability. Tap sampling under this section is not required to be conducted at taps targeted for lead and copper sampling under subdivision B 1 of this section. ~~Owners~~ The owner may find it convenient to conduct tap sampling for water quality parameters at sites approved for coliform sampling.

(2) Samples collected at the entry point or points to the distribution system shall be from locations representative of each source water after treatment. If a waterworks draws water from more than one source water and the ~~sources~~ source waters are combined before distribution, then the owner shall sample at an entry point to the

distribution system during periods of normal operating conditions (i.e., when water is representative of all ~~sources~~ source waters being used).

b. Number of samples.

(1) ~~Owners~~ The owner shall collect two tap samples from the standard monitoring number of sites given in Table 375.2 for applicable water quality parameters during each monitoring period specified under ~~subdivision~~ subdivisions C 2 through C 5 of this section from the following number of sites.

TABLE 375.2 Water Quality Monitoring for Lead and Copper		
	NUMBER OF SITES FOR WATER QUALITY PARAMETERS	
<u>System Size WATERWORKS SIZE</u> (Number of People Served)	<u>Number of Sites for Water Quality Parameters STANDARD MONITORING</u>	<u>REDUCED MONITORING</u>
greater <u>Greater</u> than 100,000	25	<u>10</u>
10,001-100,000	10	<u>7</u>
3,301 to 10,000	3	<u>3</u>
501 to 3,300	2	<u>2</u>
101 to 500	1	<u>1</u>
less <u>Less</u> than or equal to 100	1	<u>1</u>

(2) Except as provided in subdivision C 3 c of this section, ~~owners~~ the owner shall collect two samples for each applicable water quality parameter at each entry point to the distribution system during each monitoring period specified in subdivision C 2 of this section. During each monitoring period specified in ~~subdivision~~ subdivisions C 3 through, C 4, and C 5 of this section, ~~owners~~ the owner shall collect one sample for each applicable water quality parameter at each entry point to the distribution system.

2. Initial sampling. The ~~owners~~ owner of ~~all a~~ large waterworks shall measure the applicable water quality parameters as specified below at taps and at each entry point to the distribution system during each six-month monitoring period specified in subdivision B 4 a of this section. The ~~owners~~ owner of ~~all a~~ small and ~~medium-size~~ or a medium waterworks shall measure the applicable water quality parameters at the locations specified below during each six-month monitoring period specified in subdivision B 4 a of this section during which the waterworks exceeds the lead or copper ~~action level~~ AL.

a. At taps:

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- (1) pH;
- (2) Alkalinity;
- (3) Orthophosphate, when an inhibitor containing a phosphate compound is used;
- (4) Silica, when an inhibitor containing a silicate compound is used;
- (5) Calcium;
- (6) Conductivity; and
- (7) Water temperature.

b. At each entry point to the distribution system: all of the applicable parameters listed in subdivision C 2 a of this section.

3. Monitoring after installation of corrosion control. The owner of ~~any a~~ large waterworks ~~which that~~ installs optimal corrosion control treatment pursuant to 12VAC5-590-405 A 2 d (4) shall measure the water quality parameters at the locations and frequencies specified below during each six-month monitoring period specified in subdivision B 4 b (1) of this section. The owner of ~~any a~~ small or ~~medium-size a~~ medium waterworks that installs optimal corrosion control treatment shall conduct ~~such~~ monitoring during each six-month monitoring period specified in subdivision B 4 b (2) of this section in which the waterworks exceeds the lead or copper ~~action-level~~ AL.

a. At taps, two samples for:

- (1) pH;
- (2) Alkalinity;
- (3) Orthophosphate, when an inhibitor containing a phosphate compound is used;
- (4) Silica, when an inhibitor containing a silicate compound is used; and
- (5) Calcium, when calcium carbonate stabilization is used as part of corrosion control.

b. Except as provided in subdivision C 3 c of this section, at each entry point to the distribution system, at least one sample no less frequently than every two weeks (~~bi-weekly~~) (biweekly) for:

- (1) pH;
- (2) When alkalinity is adjusted as part of optimal corrosion control, a reading of the dosage rate of the chemical used to adjust the alkalinity; and the alkalinity concentration; and
- (3) When a corrosion inhibitor is used as part of optimal corrosion control, a reading of the dosage rate of the inhibitor used; and the concentration of orthophosphate or silica (whichever is applicable).

c. The owner of ~~any a~~ groundwater ~~waterworks system~~ may limit entry point sampling described in subdivision C 3 b of this section to those entry points that are representative of water quality and treatment conditions

throughout the waterworks. If water from untreated ~~ground-water~~ groundwater sources mixes with water from treated ~~ground-water~~ groundwater sources, then the owner shall monitor for water quality parameters both at representative entry points receiving treatment and representative entry points receiving no treatment. ~~Prior to~~ Before the start of any monitoring under this subdivision, the owner shall provide to the ~~commissioner~~ department written information identifying the selected entry points and documentation, including information on seasonal variability, sufficient to demonstrate that the sites are representative of water quality and treatment conditions throughout the waterworks.

4. Monitoring after the ~~commissioner~~ department specifies water quality parameter values for optimal corrosion control. After the ~~commissioner~~ department specifies the values for applicable water quality control parameters reflecting optimal corrosion control treatment under 12VAC5-590-405 A 1 f, the ~~owners~~ owner of ~~all a~~ large waterworks shall measure the applicable water quality parameters in accordance with subdivision C 3 of this section and determine compliance with the requirements of 12VAC5-590-405 A 1 g every six months with the first six-month period to begin on either January 1 or July 1, whichever comes first, after the ~~commissioner~~ department specifies the optimal values under 12VAC5-590-405 A 1 f. The owner of ~~any a~~ small or ~~medium-size a~~ medium waterworks shall conduct ~~such~~ monitoring during each six-month monitoring period specified in this subdivision in which the waterworks exceeds the lead or copper ~~action-level~~ AL. For the owner of ~~any such a~~ small and ~~medium-size or a~~ medium waterworks that is subject to a reduced monitoring frequency pursuant to subdivision B 4 d of this section at the time of the ~~action level~~ AL exceedance, the start of the applicable six-month period under this subdivision shall coincide with the start of the applicable monitoring period under subdivision B 4 d of this section. Compliance with the ~~commissioner designated~~ department-designated optimal water quality parameter values shall be determined as specified under 12VAC5-590-405 A 1 g.

5. Reduced monitoring.

a. The owner of ~~any a~~ waterworks that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment during each of two consecutive six-month monitoring periods under subdivision C 4 of this section shall continue monitoring at the entry point or points to the distribution system as specified in subdivision C 3 b of this section. The owner of ~~such the~~ waterworks may collect two tap samples for applicable water quality parameters from the ~~following~~ reduced number of sites during each six-month monitoring period shown in Table 375.2.

Size of Water System (Number of People Served)	Reduced Number of WQP Monitoring Sites
greater than 100,000	10
10,001 to 100,000	7
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
less than or equal to 100	1

b. The owner of ~~any~~ a waterworks that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the ~~commissioner~~ department under 12VAC5-590-405 A 1 f during three consecutive years of monitoring may reduce the frequency with which the owner collects the number of tap samples for applicable water quality parameters specified in subdivision C 5 of this section from every six months to annually. This sampling begins during the calendar year immediately following the end of the monitoring period in which the third consecutive year of six-month monitoring occurs. The owner of ~~any~~ a waterworks that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the ~~commissioner~~ department under 12VAC5-590-405 A 1 f during three consecutive years of annual monitoring under this subdivision may reduce the frequency with which it collects the number of tap samples for applicable water quality parameters specified in subdivision C 5 a of this section from annually to every three years. This sampling begins during the calendar year immediately following the end of the monitoring period in which the third consecutive year of six-month monitoring occurs.

c. The owner of a waterworks may reduce the frequency with which tap samples are collected for applicable water quality parameters specified in subdivision C 5 a of this section to every three years if the owner demonstrates during two consecutive monitoring periods that the tap water lead level at the 90th percentile is less than or equal to the PQL for lead (0.005 mg/L), that the tap water copper level at the 90th percentile is less than or equal to 0.65 mg/L for copper, and that the owner also has maintained the range of values for water quality parameters reflecting optimal corrosion control treatment specified by the ~~commissioner~~ department under 12VAC5-590-405 A 1 f. Monitoring conducted every three years shall be done no later than every third calendar year.

d. The owner of a waterworks that conducts sampling annually shall collect these samples evenly throughout the year so as to reflect seasonal variability.

e. The owner of ~~any~~ a waterworks subject to the reduced monitoring frequency that fails to operate at or above the minimum value or within the range of values for the water quality parameters specified by the ~~commissioner~~ department under 12VAC5-590-405 A 1 f for more than nine days in any six-month period specified in 12VAC5-590-405 A 1 g shall resume distribution system tap water sampling in accordance with the number and frequency requirements in subdivision C 4 of this section. ~~Such an~~ The owner may resume annual monitoring for water quality parameters at the tap at the reduced number of sites specified in subdivision C 5 of this section after completion of two subsequent consecutive six-month rounds of monitoring that meet the criteria of that subdivision or may resume triennial monitoring for water quality parameters at the tap at the reduced number of sites after demonstration through subsequent rounds of monitoring that the criteria of either subdivision C 5 b or C 5 c of this section has been met.

6. Additional monitoring by owners. The results of any monitoring conducted in addition to the minimum requirements of this section shall be considered by the owner and the ~~commissioner~~ department in making any determinations under this section or 12VAC5-590-405 A 1.

D. Monitoring requirements for lead and copper in water supplies (source water).

1. Sample location, collection methods, and number of samples.

a. The owner of a waterworks that fails to meet the lead or copper ~~action level~~ AL on the basis of tap samples collected in accordance with subsection A of this section shall collect lead and copper ~~water supply~~ source water samples in accordance with the following requirements regarding sample location, number of samples, and collection methods:

(1) The owner of a waterworks served by groundwater sources shall ~~take~~ collect a minimum of one sample at every entry point to the distribution system ~~that is representative of each well after treatment (hereafter called a sampling point)~~. The owner shall ~~take~~ collect one sample at the same sampling point unless conditions make another sampling point more representative of each source ~~water or water~~ water treatment plant.

(2) The owner of a waterworks served by surface water sources shall ~~take~~ collect a minimum of one sample at every entry point to the distribution system ~~after any application of treatment or in the distribution system at a point that is representative of each source after treatment (hereafter called a sampling point)~~. The owner shall ~~take~~ collect each sample at the same sampling point unless conditions make another sampling point more representative of each source ~~water or water~~ water treatment plant. Note that for the purpose of this subdivision, a

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waterworks served by a surface water source includes waterworks served by a combination of surface water and ground groundwater sources.

(3) If a waterworks draws water from more than one source water and the ~~sources~~ source waters are combined before distribution, then the owner shall collect samples at an entry point to the distribution system during periods of normal operating conditions (i.e., when water is representative of all ~~sources~~ source waters being used).

(4) The ~~commissioner~~ department may reduce the total number of samples that must be analyzed by allowing the use of compositing. Compositing of samples shall be done by certified laboratory personnel. Composite samples from a maximum of five samples are allowed, provided that if the lead concentration in the composite sample is greater than or equal to 0.001 mg/L or the copper concentration is greater than or equal to 0.160 mg/L, then either a follow-up sample shall be collected and analyzed within 14 days at each sampling point included in the composite; or if duplicates ~~of~~ or sufficient quantities from the original samples from each sampling point used in the composite are available, then the owner may use these instead of resampling.

b. Where the results of sampling indicate an exceedance of maximum permissible water-supply source water levels established under 12VAC5-590-405 B 4, the ~~commissioner~~ department may require that one additional sample be collected as soon as possible after the initial sample was ~~taken~~ collected (but not to exceed two weeks) at the same sampling point. If a ~~commissioner~~ required confirmation sample required by the department is ~~taken~~ collected for lead or copper, then the results of the initial and confirmation sample shall be averaged in determining compliance with the ~~commissioner~~ specified department- specified maximum permissible levels. ~~Any A~~ A sample value below the ~~method detection limit MDL~~ shall be considered to be zero. ~~Any A~~ A value above the ~~method detection limit MDL~~ but below the PQL shall either be considered as the measured value or be considered one-half the PQL. The PQL for lead is equal to 0.005 mg/L, and the PQL for copper is equal to 0.050 mg/L.

2. Monitoring frequency after a waterworks exceeds a tap action level AL. The owner of ~~any a~~ a waterworks ~~which that~~ exceeds the lead or copper action level AL at the tap shall collect one water-supply source water sample from each entry point to the distribution system no later than six months after the end of the monitoring period during which the lead or copper action level AL was exceeded. For monitoring periods that are annual or less frequent, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or if the ~~commissioner~~ department has established an alternate monitoring period, the last day of that period.

3. Monitoring frequency after installation of ~~water-supply source water~~ treatment. The owner of ~~any a~~ a waterworks that installs ~~water-supply source water~~ treatment pursuant to 12VAC5-590-405 B 1 c shall collect an additional source water-supply sample from each entry point to the distribution system during two consecutive six-month monitoring periods by the deadline specified in 12VAC5-590-405 B 1 d.

4. Monitoring frequency after the ~~commissioner~~ department specifies maximum permissible water-supply source water lead and copper levels or determines that water-supply source water treatment is not needed.

a. ~~An~~ The owner shall monitor at the frequency specified ~~below in subdivisions D 4 a (1) and D 4 a (2) of this section~~ in cases where the ~~commissioner~~ department specifies maximum permissible water-supply source water lead and copper levels under 12VAC5-590-405 B 1 e or determines that the owner is not required to install water-supply source water treatment under 12VAC5-590-405 B 2 b.

(1) The owner of a waterworks using only groundwater shall collect samples once during the three-year compliance period in effect when the applicable ~~commissioner~~ department determination under subdivision D 4 a of this section is made. ~~Owners of such waterworks~~ The owner shall collect samples once during each subsequent compliance period. Triennial samples shall be collected every third calendar year.

(2) The owner of a waterworks using surface water (or a combination of surface water and groundwater) shall collect samples once during each year, the first annual monitoring period to begin during the year in which the applicable ~~commissioner~~ department determination is made under subdivision D 4 a of this section.

b. ~~An~~ The owner is not required to conduct water-supply source water sampling for lead or copper if the waterworks meets the ~~action level AL~~ for the specific contaminant in tap water samples during the entire water-supply source water sampling period applicable to the waterworks under subdivision D 4 a (1) or D 4 a (2) of this section.

5. Reduced monitoring frequency.

a. The owner of a waterworks using only groundwater may reduce the monitoring frequency for lead and copper in ~~water-supplies source waters~~ to once during each nine-year compliance cycle provided that the samples are collected no later than every ninth calendar year and if the owner meets one of the following criteria:

(1) The owner demonstrates that the finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the ~~commissioner~~ department under 12VAC5-590-405 B 1 e during at least three consecutive compliance periods under subdivision D 4 a of this section; or

(2) The ~~commissioner~~ department has determined that ~~water supply source water~~ treatment is not needed and the owner demonstrates that, during the last three consecutive compliance periods in which sampling was conducted under subdivision D 4 a of this section, the concentration of lead in the ~~water supply source water~~ was less than or equal to 0.005 mg/L and the concentration of copper in the ~~water supply source water~~ was less than or equal to 0.65 mg/L.

b. The owner of a waterworks using surface water (or a combination of surface ~~and ground waters~~) ~~water and groundwater sources~~ may reduce the monitoring frequency for lead and copper in ~~water supplies source waters~~ to once during each nine-year compliance cycle provided that the samples are collected no later than every ninth calendar year and if the owner meets one of the following criteria:

(1) The owner demonstrates that finished ~~drinking~~ water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the ~~commissioner~~ department under 12VAC5-590-405 B 1 e for at least three consecutive years; or

(2) The ~~commissioner~~ department has determined that ~~water supply source water~~ treatment is not needed and the owner demonstrates that, during the last three consecutive years, the concentration of lead in the ~~water supply source water~~ was less than or equal to 0.005 mg/L and the concentration of copper in the ~~water supply source water~~ was less than or equal to 0.65 mg/L.

c. ~~Owners~~ The owner of a waterworks that uses a new ~~water supply source water~~ is not eligible for reduced monitoring for lead or copper until concentrations in samples collected from the new ~~supply source water~~ during three consecutive monitoring periods are below the maximum permissible lead and copper concentrations specified in 12VAC5-590-405 B 1 e.

12VAC5-590-376. Surface water and GUDI sources treatment monitoring.

A. The owner of a waterworks that uses a surface water source, a GUDI source, or both and provides filtration treatment shall monitor in accordance with this section.

B. Turbidity measurements shall be performed on representative samples of the filtered water every four hours (or more frequently) that the waterworks serves water to the public. The owner may substitute continuous turbidity monitoring for grab sample monitoring if the owner validates the continuous measurement for accuracy on a regular basis using a protocol approved by the department. For a waterworks using slow sand filtration or filtration treatment other than conventional treatment, direct filtration, or diatomaceous earth filtration, the department may reduce the sampling frequency to once per day if the department determines that less frequent

monitoring is sufficient to indicate effective filtration performance. For a waterworks serving 500 or fewer persons, the department may reduce the turbidity sampling frequency to once per day, regardless of the type of filtration treatment used, if the department determines that less frequent monitoring is sufficient to indicate effective filtration performance.

1. The owner of a waterworks supplied by a surface water source, a GUDI source, or both using conventional filtration treatment or direct filtration shall conduct continuous monitoring of turbidity for each individual filter. The turbidimeter shall be calibrated using the procedure specified by the turbidimeter manufacturer. The owner shall record the results of individual filter turbidity monitoring a minimum of every 15 minutes.

2. If there is a failure in the continuous turbidity monitoring equipment, then the owner shall conduct grab sampling every four hours instead of continuous monitoring but for no more than five working days (for a waterworks serving 10,000 or more persons) or 14 days (for a waterworks serving less fewer than 10,000 persons) following the failure of the equipment.

3. If a waterworks serving fewer than 10,000 persons consists of two or fewer filters, continuous monitoring of the CFE may be used instead of individual filter monitoring.

C. The residual disinfectant concentration of the water entering the distribution system shall be monitored continuously, and the lowest and highest values shall be recorded each day. If there is a failure in the continuous monitoring equipment, then grab sampling every four hours shall be conducted instead of continuous monitoring, but such grab sampling shall be conducted for no more than five working days following the failure of the equipment. The owner of a waterworks serving 3,300 or fewer persons may collect grab samples instead of continuous monitoring on an ongoing basis at the frequencies prescribed in Table 376.1.

1. The day's samples cannot be collected at the same time.

2. The sampling intervals are subject to department's evaluation and approval.

3. If at any time the residual disinfectant concentration falls below 0.2 mg/L in a waterworks using grab sampling instead of continuous monitoring, then the owner shall collect a grab sample every four hours until the residual disinfectant concentration is equal to or greater than 0.2 mg/L.

<u>TABLE 376.1</u> <u>Grab Sample Monitoring Frequency</u>	
<u>WATERWORKS SIZE BY</u> <u>POPULATION</u>	<u>SAMPLES/DAY</u>
<u>500 or less</u>	<u>1</u>
<u>501 - 1,000</u>	<u>2</u>

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<u>1,000 - 2,500</u>	<u>3</u>
<u>2,501 - 3,300</u>	<u>4</u>

D. The residual disinfectant concentration shall be measured at least at the same points in the distribution system and at the same time as total coliform bacteria are sampled, as specified in 12VAC5-590-370 A and 12VAC5-590-380 D, except that the department may allow the owner of a waterworks that uses a groundwater source along with a surface water source, a GUDI source, or both to collect residual disinfectant samples at points other than the total coliform sampling points if the department determines that these points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as HPC as specified in 12VAC5-590-395 A 2 a (3), may be measured instead of residual disinfectant concentration.

E. The following information on the samples collected in the distribution system in conjunction with total coliform monitoring pursuant to 12VAC5-590-395 A 2 shall be reported monthly to the department by the owner:

1. Number of instances where the residual disinfectant concentration is measured;
2. Number of instances where the residual disinfectant concentration is not measured but heterotrophic plate count (HPC) is measured;
3. Number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured;
4. Number of instances where no residual disinfectant concentration is detected and where the HPC is greater than 500/mL;
5. Number of instances where the residual disinfectant concentration is not measured and HPC is greater than 500/mL; and
6. For the current and previous month the waterworks serves water to the public, the value of "V," in percent, in the following formula:

$$V = [(c + d + e) / (a + b)] \times 100$$

where

a = the value in subdivision E 1 of this section;

b = the value in subdivision E 2 of this section;

c = the value in subdivision E 3 of this section;

d = the value in subdivision E 4 of this section;

e = the value in subdivision E 5 of this section.

12VAC5-590-377. Physical constituent monitoring.

A. Monitoring to determine compliance with the SMCLs for color, odor, pH, and total dissolved solids as specified in Table 340.3 shall be conducted as follows:

1. The owner shall collect one sample at each groundwater source entry point during each compliance period.
2. The owner shall collect one sample annually at each surface water source entry point, in whole or in part.

B. Onsite daily turbidity measurements may be required to be performed on representative samples collected at each entry point for groundwater sources not required to filter, to determine compliance set forth in 12VAC5-590-379 B. The turbidity monitoring requirements for a waterworks required to filter are specified in 12VAC5-590-376 B.

12VAC5-590-378. Radiological monitoring.

A. The location of sampling points, the radionuclides measured in community waterworks, the frequency, and the timing of sampling within each compliance period shall be established or approved by the department. The department may increase required monitoring where necessary to detect variations within the waterworks. Failure to comply with the sampling schedules in this section will require public notification pursuant to 12VAC5-590-540 A 3.

B. The owner of a community waterworks shall conduct monitoring to determine compliance with the PMCLs listed in Table 340.4 and 12VAC5-590-388 in accordance with this section.

1. Monitoring requirements for gross alpha particle activity, radium-226, radium-228, and uranium.

a. The owner shall conduct initial monitoring to determine compliance with the PMCLs listed in Table 340.4 for gross alpha particle activity, radium-226, radium-228, and uranium. For the purposes of monitoring for gross alpha particle activity, radium-226, radium-228, uranium, and beta particle and photon radioactivity in drinking water, "detection limit" is defined as specified in Table 378.1.

(1) Applicability and sampling location for an existing community waterworks or its sources. The owner using groundwater, surface water, or both groundwater and surface water shall sample at every entry point to the distribution system that is representative of all sources being used under normal operating conditions. The owner shall collect each sample at the same entry point unless conditions make another sampling point more representative of each source.

(2) Applicability and sampling location for a new community waterworks or its sources. A new community waterworks or a community waterworks that uses a new source water shall begin to conduct initial monitoring for the new source water within the first quarter after initiating use. The owner shall conduct more frequent monitoring

when directed by the department in the event of possible contamination or when changes in the distribution system or treatment processes occur that may increase the concentration of radioactivity in the finished water.

b. Initial monitoring. The owner shall conduct initial monitoring for gross alpha particle activity, radium-226, radium-228, and uranium as follows:

(1) The owner shall collect four consecutive quarterly samples at all entry points.

(2) For gross alpha particle activity, uranium, radium-226, and radium-228 monitoring, the department may waive the final two quarters of initial monitoring for an entry point if the results of the samples from the previous two quarters are below the detection limit as defined by and as specified in Table 378.1.

(3) If the average of the initial monitoring results for an entry point is above the PMCL, then the owner shall collect and analyze quarterly samples at that entry point until the owner has results from four consecutive quarters that are at or below the PMCL, unless the owner enters into another schedule as part of a formal compliance agreement with the department.

c. Reduced monitoring. The department may allow the owner to reduce the future frequency of monitoring from once every three years to once every six or nine years at each entry point, based on the following criteria:

(1) If the average of the initial monitoring results for each contaminant (i.e., gross alpha particle activity, uranium, radium-226, or radium-228) is below the detection limit as specified in Table 378.1, then the owner shall collect and analyze for that contaminant using at least one sample at that entry point every nine years.

(2) For gross alpha particle activity, combined radium, and uranium, if the average of the initial monitoring results for each contaminant is at or above the detection limit as specified in Table 378.1, but at or below half of the PMCL, then the owner shall collect and analyze for that contaminant using at least one sample at that entry point every six years.

(3) For gross alpha particle activity, combined radium, and uranium, if the average of the initial monitoring results for each contaminant is above half the PMCL but at or below the PMCL, then the owner shall collect and analyze at least one sample at that entry point every three years.

(4) The owner shall use the samples collected during the reduced monitoring period to determine the monitoring frequency for subsequent monitoring periods (e.g., if a waterworks entry point is on a nine-year monitoring period, and the sample result is above half the PMCL, then the next monitoring period for that entry point is three years).

(5) If the owner has a monitoring result that exceeds the PMCL while on reduced monitoring, then the owner shall

collect and analyze quarterly samples at that entry point until the results from four consecutive quarters are below the PMCL, unless the waterworks enters into another schedule as part of a formal compliance agreement with the department.

d. Compositing. To fulfill quarterly monitoring requirements for gross alpha particle activity, radium-226, radium-228, or uranium, the owner may composite up to four consecutive quarterly samples from a single entry point if analysis is done within a year of the first sample. The department will treat analytical results from the composited sample as the average analytical result to determine compliance with the PMCLs and the future monitoring frequency. If the analytical result from the composited sample is greater than half the PMCL, then the department may direct the owner to collect additional quarterly samples before allowing the owner to sample under a reduced monitoring schedule.

e. A gross alpha particle activity measurement may be substituted for the required radium-226 measurement provided that the measured gross alpha particle activity does not exceed 5 pCi/L. A gross alpha particle activity measurement may be substituted for the required uranium measurement provided that the measured gross alpha particle activity does not exceed 15 pCi/L. The gross alpha measurement shall have a confidence interval of 95% (1.65 σ , where σ is the standard deviation of the net counting rate of the sample) for radium-226 and uranium. When an owner uses a gross alpha particle activity measurement instead of a radium-226 or uranium measurement, the gross alpha particle activity analytical result will be used to determine the future monitoring frequency for radium-226 or uranium. If the gross alpha particle activity result is less than the detection limit as specified in Table 378.1, then half the detection limit will be used to determine compliance and the future monitoring frequency.

2. Monitoring requirements for beta particle and photon radioactivity. To determine compliance with the PMCL in Table 340.4 for beta particle and photon radioactivity, an owner shall monitor at a frequency as follows:

a. The owner (using surface water or groundwater sources) designated by the department as vulnerable shall sample for beta particle and photon radioactivity. The owner shall collect quarterly samples for beta emitters and annual samples for tritium and strontium-90 at each entry point to the distribution system, beginning within one quarter after being notified by the department. A waterworks already designated by the department shall continue to sample until the department evaluates and either reaffirms or removes the designation.

(1) If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity at an entry point has an RAA (computed quarterly) less than or equal

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to 50 pCi/L (screening level), then the department may reduce the frequency of monitoring at that entry point to once every three years. The owner shall collect all samples required in subdivision B 2 a of this section during the reduced monitoring period.

(2) For a waterworks in the vicinity of a nuclear facility, the department may allow the owner to utilize environmental surveillance data collected by the nuclear facility instead of monitoring at the waterworks entry point, where the department determines the data is applicable to a particular waterworks. In the event that there is a release from a nuclear facility, the owner who is using surveillance data shall begin monitoring at the waterworks entry point in accordance with subdivision B 2 a of this section.

b. The owner (using a surface water, a groundwater source, or both) designated by the department as utilizing waters contaminated by effluents from nuclear facilities shall sample for beta particle and photon radioactivity. The owner shall collect quarterly samples for beta emitters and iodine-131 and annual samples for tritium and strontium-90 at each entry point to the distribution system, beginning within one quarter after being notified by the department. The owner of a waterworks already designated by the department as using waters contaminated by effluents from nuclear facilities shall continue to sample until the department evaluates and either reaffirms or removes the designation.

(1) Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples or the analysis of a composite of three monthly samples. The former procedure, analysis of monthly samples, is recommended.

(2) For iodine-131, a composite of five consecutive daily samples shall be analyzed once each quarter. As directed by the department, more frequent monitoring shall be conducted when iodine-131 is identified in the finished water.

(3) Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. The latter procedure, analysis of monthly samples, is recommended.

(4) If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity at a sampling point has an RAA (computed quarterly) less than or equal to 15 pCi/L (screening level), then the department may reduce the frequency of monitoring at that sampling point to every three years. The owner shall collect all samples required in subdivision B 2 b of this section during the reduced monitoring period.

(5) For a waterworks in the vicinity of a nuclear facility, the department may allow the owner to utilize environmental surveillance data collected by the nuclear

facility instead of the monitoring at the waterworks entry point, where the department determines the data is applicable to a particular waterworks. In the event that there is a release from a nuclear facility, the owner who is using surveillance data shall begin monitoring at the waterworks entry point in accordance with subdivision B 2 b of this section.

c. The owner of a waterworks designated by the department to monitor for beta particle and photon radioactivity cannot apply to the department for a waiver from the monitoring frequencies specified in subdivision B 2 a or B 2 b of this section.

d. The owner may analyze for naturally occurring potassium-40 beta particle activity from the same or equivalent sample used for the gross beta particle activity analysis. The owner is allowed to subtract the potassium-40 beta particle activity value from the total gross beta particle activity value to determine if the screening level is exceeded. The potassium-40 beta particle activity shall be calculated by multiplying elemental potassium concentrations (in mg/L) by a factor of 0.82.

e. If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity exceeds the appropriate screening level, then an analysis of the sample shall be performed to identify the major radioactive constituents present in the sample and the appropriate doses shall be calculated and summed to determine compliance with the PMCL for beta particles and photon radioactivity. Doses shall also be calculated and combined for measured levels of tritium and strontium to determine compliance.

f. The owner shall monitor monthly at each entry point that exceeds the PMCLs listed in Table 340.4 beginning the month after the exceedance occurs. The owner shall continue monthly monitoring until the waterworks has established, by a rolling average of three monthly samples, that the PMCL is being met. The owner who establishes that the PMCL is being met shall return to quarterly monitoring until the requirements set forth in subdivision B 2 a (1) or B 2 b (4) of this section are met.

3. General monitoring requirements for radionuclides.

a. The department may require more frequent monitoring than specified in subdivisions B 1 and B 2 of this section or may require confirmation samples at the department's discretion. The results of the initial and confirmation samples shall be averaged for use in compliance determinations.

b. The owner shall monitor at the time designated by the department during each compliance period.

c. The department has the discretion to delete results of obvious sampling or analytic errors.

d. Table 378.1 provides the minimum detection limits for radiological analyses.

TABLE 378.1
Minimum Detection Limits for Radiological Analyses

<u>CONTAMINANT</u>	<u>DETECTION LIMIT</u> (pCi/L unless otherwise noted)
<u>Gross alpha</u>	<u>3</u>
<u>Gross beta</u>	<u>4</u>
<u>Cesium-134</u>	<u>10</u>
<u>Iodine-131</u>	<u>1</u>
<u>Radium-226</u>	<u>1</u>
<u>Radium 228</u>	<u>1</u>
<u>Strontium-89</u>	<u>10</u>
<u>Strontium-90</u>	<u>2</u>
<u>Tritium</u>	<u>1,000</u>
<u>Uranium</u>	<u>1 (µg/L)</u>

12VAC5-590-379. Groundwater ~~waterworks~~ system monitoring.

A. General monitoring requirements.

1. ~~Owners~~ The owner of a groundwater ~~waterworks~~ system, including consecutive and wholesale waterworks, shall conduct monitoring in accordance with this section, except that requirements do not apply to waterworks that combine all of their groundwater sources with surface water sources or with groundwater under the direct influence of surface water prior to GUDI sources before treatment in accordance with ~~12VAC5-590-420~~ 12VAC5-590-395.
2. Source water monitoring ~~for owners of~~ by the owner of a groundwater ~~waterworks~~ system that ~~do~~ does not provide 4-log treatment of viruses for their groundwater sources before or at the first customer ~~are~~ is described in subsection B of this section.
3. ~~Owners of~~ The owner of a groundwater ~~waterworks~~ system that ~~provide~~ provides at least 4-log treatment of viruses before or at the first customer ~~are~~ is required to conduct compliance monitoring in accordance with 12VAC5-590-421 C.
4. ~~Owners~~ The owner of a groundwater ~~waterworks~~ system that ~~have~~ has confirmed fecal E. coli contamination, as determined by source water monitoring conducted under subsection B of this section or ~~have~~ has been notified of a significant deficiency as described in 12VAC5-590-350 D shall implement one or more of the corrective actions outlined in 12VAC5-590-421 A 1, as prescribed by the ~~commissioner~~ department.

5. ~~Owners~~ The owner of a groundwater ~~waterworks~~ system that ~~do~~ does not provide 4-log treatment of viruses before or at the first customer and ~~are~~ is not performing compliance monitoring shall provide a triggered source water monitoring ~~plans~~ plan to the ~~commissioner~~ department.

6. Any source water sample collected in accordance with this section shall be analyzed for E. coli using one of the analytical methods in 40 CFR 141.402(c).

B. Groundwater source microbial monitoring.

1. Triggered source water monitoring.

a. General requirements. ~~Groundwater waterworks owners~~ The groundwater system owner shall conduct triggered source water monitoring if both the conditions identified in subdivisions B 1 a (1) and ~~B 1 a~~ (2) of this section exist.

(1) The groundwater ~~waterworks~~ system owner does not provide at least 4-log treatment of viruses before or at the first customer for each groundwater source; and

(2) The groundwater ~~waterworks~~ system owner is notified that a sample collected under 12VAC5-590-370 A is total coliform-positive ~~coliform positive~~ and the sample is not invalidated under 12VAC5-590-380 E.

b. Sampling requirements. ~~Groundwater waterworks owners~~ The groundwater system owner shall collect, within 24 hours of notification of the total coliform-positive sample, one groundwater source water sample from each groundwater source in use at the time the total coliform-positive sample was collected under 12VAC5-590-370 A, except as provided in this subdivision B 1 b.

(1) The ~~commissioner~~ department may extend the 24-hour time limit on a case-by-case basis if the owner cannot collect the groundwater source water sample within 24 hours due to circumstances beyond his control. In the case of an extension, the ~~commissioner~~ department shall specify how much time the owner has to collect the sample.

(2) If approved by the ~~commissioner~~ department, ~~owners~~ the owner of a waterworks with more than one groundwater source may meet the requirements of this subdivision B 1 by sampling a representative groundwater ~~source or sources~~. ~~Owners~~ The owner shall submit, for the ~~commissioner's~~ department's approval, a triggered source water monitoring plan that identifies one or more groundwater sources that are representative of each monitoring site in the waterworks' bacteriological sample siting report or that identifies groundwater sources that are ~~hydro geologically~~ hydrogeologically similar and clearly identifies which sources will be sampled.

(3) A groundwater system serving 1,000 people or fewer may use a triggered source water sample collected from a groundwater source to meet both the requirements of 12VAC5-590-380 and to satisfy the monitoring

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requirements of this subdivision B 1 for a groundwater source.

c. Additional requirements.

(1) If an E. coli-positive triggered source water sample collected under this subdivision B 1 is not invalidated under subdivision B 2 of this section, then the groundwater ~~waterworks~~ system owner shall provide public notification and collect five additional source water samples from the same source within 24 hours of being notified of the E. coli-positive sample.

(a) If the E. coli-positive triggered source water sample is also used as a repeat sample, then an E. coli PMCL violation is incurred under 12VAC5-590-380 B 1 a.

(b) If a waterworks ~~takes~~ collects more than one repeat sample at the monitoring location required for triggered source water monitoring, then the number of additional source water samples required under subdivision B 1 c (1) of this section may be reduced by the number of repeat samples ~~taken~~ collected at that location that were not E. coli positive.

(2) If any of the five additional samples are E. coli positive, the groundwater system owner shall comply with the treatment technique requirements of 12VAC5-590-421.

d. Consecutive and wholesale waterworks.

(1) A consecutive groundwater ~~waterworks~~ system owner that has a total coliform-positive sample collected in accordance with 12VAC5-590-370 A shall notify the wholesale waterworks owner and the ~~district engineer~~ department within 24 hours of being notified of the total coliform-positive sample.

(2) ~~A~~ The wholesale groundwater ~~waterworks~~ system owner shall comply with the following:

(a) ~~A~~ The wholesale groundwater ~~waterworks~~ system owner that receives notice from a consecutive waterworks it serves that a sample collected in accordance with 12VAC5-590-370 A is total ~~coliform-positive~~ coliform positive shall, within 24 hours of being notified, collect a sample from ~~its each~~ each groundwater ~~source(s)~~ source as described in subdivision B 1 of this section.

(b) If the sample collected under this subdivision B 1 is E. coli positive, then the wholesale groundwater system owner shall within 24 hours notify all consecutive waterworks served by that groundwater source of the E. ~~coli~~ coli-positive source water ~~positive~~ sample as described in 12VAC5-590-540 and shall meet the requirements of subdivision B 1 c of this section.

e. Exception to the triggered source water monitoring requirements. A groundwater system owner is not required to comply with the source water monitoring requirements of this subdivision B 1 if the ~~commissioner~~ department determines, and documents in writing, that:

(1) The total coliform-positive sample collected in accordance with 12VAC5-590-370 A is invalidated under 12VAC5-590-380 E.

(2) The total coliform-positive sample collected in accordance with 12VAC5-590-370 A is caused by a distribution system deficiency (sanitary defect).

(3) The total coliform-positive sample collected in accordance with 12VAC5-590-370 A was caused by distribution system conditions that will cause total coliform-positive samples.

2. Invalidation of an E. coli-positive groundwater source sample.

a. ~~A~~ The groundwater ~~waterworks~~ system owner may obtain the ~~commissioner's department's~~ department's invalidation of an E. coli-positive groundwater source sample collected under subdivision B 1 of this section only under the following conditions ~~specified in subdivisions B 2 a (1) and (2) of this section:~~

(1) The groundwater ~~waterworks~~ system owner provides the ~~commissioner~~ department with written notice from the laboratory that improper sample analysis occurred; or

(2) The ~~commissioner~~ department determines and documents in writing that there is substantial evidence that the E. coli-positive groundwater source sample is not related to source water quality.

b. If the ~~commissioner~~ department invalidates an E. ~~coli~~ coli-positive groundwater source sample, then the groundwater system owner shall collect another source water sample under subdivision B 1 of this section within 24 hours of being notified by the ~~commissioner~~ department of the invalidation decision and have ~~it~~ the source water sample analyzed for E. coli.

3. Sampling location. All groundwater source samples required under subdivision B 1 of this section shall be collected at a location ~~prior to~~ before any treatment of the groundwater source unless otherwise approved by the ~~commissioner~~ department.

4. Public notification. The owner of a groundwater ~~waterworks~~ system with a source water sample collected under this subsection that is E. coli positive and that is not invalidated under subdivision B 2 of this section, including consecutive waterworks served by the groundwater source, shall conduct public notification as required in 12VAC5-590-540 A 1.

5. Monitoring violations. Failure to meet the monitoring requirements of subdivision B 1 of this section is a violation and requires the groundwater ~~waterworks~~ system owner to provide public notification as required in 12VAC5-590-540 A 3.

C. Monitoring requirements for source water.

1. The owner of a groundwater source utilizing chlorine disinfection or any other treatment or chemical addition that may alter or affect the bacteriological quality of the source water shall collect source water samples for bacteriological analysis in accordance with this section.

2. All bacteriological samples under this section shall be collected from the source water before any treatment or chemical addition.

a. The owner shall provide a suitable source water sample tap at each groundwater source.

b. If conditions indicate that it is not possible to install a source water sample tap, then an alternate sample location acceptable to the department may be utilized for this monitoring.

3. All samples shall be analyzed by a test method that will yield a most probable number (MPN) result for both total coliforms and E. coli.

4. Number of samples.

a. The number of routine source water samples to be collected and the frequency of sampling shall be determined by the department. The department will notify the owner of the source water sampling requirements.

b. As a minimum, the owner shall collect source water samples in accordance with Table 379.1.

<u>TABLE 379.1</u> <u>Monitoring Requirements for Source Water Samples</u>		
<u>SOURCE TYPE</u>	<u>MINIMUM ROUTINE SOURCE WATER MONITORING FREQUENCY</u>	<u>PARAMETERS</u>
<u>Well located in non-karst geology</u>	<u>One sample per year</u>	<u>Total coliforms MPN and E coli MPN</u>
<u>Well located in karst geology</u>	<u>One sample per calendar quarter</u>	<u>Total coliforms MPN and E coli MPN</u>
<u>Spring</u>	<u>One sample per month</u>	<u>Total coliforms MPN and E coli MPN</u>

c. When a single sample result from a groundwater source that requires a routine source water monitoring frequency of less than monthly indicates total coliforms in excess of 50 colonies/100 mL or the presence of E. coli, the owner shall collect one confirmation sample within seven calendar days after notification of the results.

d. The department may require that additional source water samples be collected and will establish the specific number of samples and the monitoring frequency.

12VAC5-590-380. Bacteriological quality compliance.

A. Analytical methodology. 1. The standard sample volume for the coliform test shall consist of 100 milliliters, regardless of the analytical method used. 2. Owners need The owner needs only to determine the presence or absence of total coliforms and E. coli; a determination of total coliform density is not required for routine bacteriological monitoring at entry points or distribution system locations.

3. The time from sample collection to initiation of test medium incubation shall not exceed 30 hours.

4. Owners are encouraged but not required to hold samples below 10°C during transit.

5. If water having residual chlorine (measured as free, combined, or total chlorine) is to be analyzed, sufficient sodium thiosulfate (Na₂S₂O₃) shall be added to the sample bottle before sterilization to neutralize any residual chlorine in the water sample.

B. PMCLs for microbial contaminants.

1. A waterworks is in compliance with the PMCL for E. coli unless any of the conditions identified in this subdivision occur. A violation may pose an acute risk to public health and is a Tier 1 condition requiring public notification as described in 12VAC5-590-540 A 1 when:

- a. A repeat sample following a total coliform-positive routine sample is E. coli positive;
- b. A repeat sample following an E. coli-positive routine sample is total coliform positive;
- c. The owner fails to ~~take~~ collect all required repeat samples following an E. coli-positive routine sample; or
- d. The owner fails to test for E. coli when any repeat sample tests positive for total coliform.

2. Compliance shall be determined with the PMCL for E. coli for each monitoring period for which monitoring for total coliforms is required.

C. The best available technology (BAT), treatment techniques, or other means available for achieving compliance with the PMCL for E. coli shall be:

- 1. Protection of wells from contamination by coliforms by appropriate placement ~~and~~ construction, and maintenance of the wells;
- 2. Maintenance of a ~~disinfectant~~ detectable residual disinfectant throughout the distribution system;
- 3. Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, water main flushing programs, proper operation and maintenance of storage tanks and reservoirs, continual maintenance of positive water pressure in all parts of the distribution system, and an approved ~~cross-connection~~ cross-connection control program;

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4. Filtration and disinfection of a surface water or surface influenced groundwater source, a GUDI source, or both; and

5. Disinfection of groundwater using strong oxidants such as chlorine, chlorine dioxide, or ozone.

D. A total coliform-positive result is indicative of a breakdown in the protective barriers and shall be cause for repeat monitoring and special follow-up action to locate and eliminate the cause of contamination.

1. For each routine sample found to be total coliform positive, the ~~waterworks~~ owner shall collect a set of three repeat samples within 24 hours of being notified of the positive result. The ~~commissioner~~ department may extend the 24-hour limit on a case-by-case basis. For groundwater ~~waterworks~~ systems, the requirements of 12VAC5-590-379 shall also apply, and all repeat samples must be analyzed for E. coli using one of the analytical methods in 40 CFR 141.402(c).

a. The owner shall collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was ~~taken~~ collected, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system or one service connection away from the end of the distribution system, the owner must still ~~take~~ collect all required repeat samples.

b. The owner shall collect an additional set of repeat samples if one or more repeat samples in the current set of repeat samples is total coliform positive. The owner shall collect the additional set of repeat samples within 24 hours of being notified of the positive results, unless the ~~commissioner~~ department extends the limit as provided in this section. The owner shall continue to collect additional sets of repeat samples until either total coliforms are not detected in one complete set of repeat samples or the owner determines that a coliform treatment technique trigger specified in 12VAC5-590-392 B has been exceeded as a result of a repeat sample being total coliform positive and notifies the ~~appropriate ODW field office~~ department. If a trigger identified in 12VAC5-590-392 B is exceeded as a result of a routine sample being total coliform positive, ~~an~~ then the owner is required to conduct only one round of repeat monitoring for each total coliform-positive routine sample.

c. If the owner collects a routine sample before learning the results of the previous routine sample, and the sample is ~~taken~~ collected within five service connections of the initial routine sample, then the owner may count the subsequent sample as a repeat sample when the initial sample results are found to be total coliform positive.

d. If one or more repeat samples ~~taken~~ collected at the monitoring location required for triggered source water

monitoring are E. coli positive, ~~then~~ the ~~waterworks~~ owner has exceeded the E. coli PMCL and must comply with the groundwater system treatment technique requirements specified in 12VAC5-590-421.

e. If all repeat samples ~~taken~~ collected at the monitoring location required for triggered source water monitoring are E. coli negative, and a repeat sample ~~taken~~ collected at a monitoring location other than the one required for triggered source water monitoring is E. coli positive, then the ~~waterworks~~ owner has exceeded the E. coli PMCL. However, the owner is not required to collect five additional source water samples from the same source within 24 hours of learning the E. coli-positive result.

f. The ~~waterworks~~ owner shall collect all repeat samples on the same day, except the ~~commissioner~~ department may allow ~~the owner of~~ a waterworks with a single service connection to collect the required set of repeat samples over a three-day period or to collect a larger volume repeat sample in one or more sample containers of any size as long as the total volume collected is at least 300 ml.

g. If a repeat sample ~~taken~~ collected at the monitoring location required for triggered source water monitoring is E. coli positive ~~coli-positive~~, ~~then~~ the ~~waterworks~~ owner has exceeded the E. coli PMCL and must collect five additional source water samples from the same source within 24 hours of learning the E. coli-positive result.

2. Results of all routine and repeat samples not invalidated by the ~~commissioner~~ department shall be used to determine compliance with the PMCL for E. coli and whether a treatment technique trigger specified in 12VAC5-590-392 B has been exceeded.

3. ~~Special-purpose~~ Special-purpose samples, such as those ~~taken~~ collected to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, and samples ~~taken~~ collected before start-up of a seasonal waterworks, shall not be used to determine compliance. Repeat samples are not considered ~~special purpose~~ special-purpose samples.

E. A total coliform-positive sample invalidated under this ~~paragraph~~ subsection does not count ~~towards~~ toward meeting the minimum monitoring requirements of this section. To invalidate a total coliform-positive sample under this subsection, the written decision and rationale shall be ~~reviewed~~ evaluated, approved, and signed by the ~~commissioner~~ department. The ~~commissioner~~ department shall make this document available to EPA and the public. The written documentation shall state the specific cause of the total coliform-positive sample and what action the owner has taken, or will take, to correct this problem. The ~~commissioner~~ department shall not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform negative.

1. The ~~commissioner~~ department may invalidate a total coliform positive sample if any of the following conditions are met:

- a. The laboratory establishes that improper sample analysis caused the total coliform-positive result;
- b. The ~~commissioner~~ department, on the basis of the results of repeat samples collected as required by subdivision D 1 of this section, determines that the total coliform-positive sample resulted from a domestic or other nondistribution system plumbing problem. The ~~commissioner~~ department cannot invalidate a sample on the basis of repeat sample results unless all repeat ~~sample(s)~~ samples collected at the same tap as the original total coliform-positive sample are also total coliform positive, and all repeat samples collected at a location other than the original tap are total coliform negative (e.g., the ~~commissioner~~ department cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform negative, or if the waterworks has only one service connection); or
- c. The ~~commissioner~~ department has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. In this case, the ~~waterworks~~ owner shall still collect all repeat samples required under subdivision D 1 of this section, and use them to determine whether a coliform treatment technique trigger in 12VAC5-590-392 B has been exceeded.

2. A laboratory must invalidate a sample because of sampling interference (i.e., turbid culture in absence of (i) gas production, or (ii) acid reaction; exhibition of confluent growth; or production of colonies too numerous to count). The ~~waterworks owners~~ owner shall collect a replacement sample from the same location within 24 hours, and have it analyzed for the presence of total coliforms. The ~~waterworks~~ owner must continue to resample within 24 hours and have the samples analyzed until ~~they obtain~~ a valid result is obtained. The ~~commissioner~~ department may waive the 24-hour time limit on a case-by-case basis.

F. Escherichia coli (E. coli).

1. If ~~any a~~ a routine ~~or~~ repeat sample, or replacement sample is total coliform positive, ~~then~~ the ~~waterworks~~ owner shall analyze ~~that the~~ the total coliform-positive culture medium to determine if E. coli are present. If E. coli are present, ~~then~~ the ~~waterworks~~ owner shall notify the ~~appropriate ODW field office~~ department by the end of the day when the ~~waterworks~~ owner is notified of the test result, unless the ~~ODW's field office~~ department is closed, in which case the ~~appropriate ODW field office~~ department must be notified before the end of the next business day.

2. The ~~commissioner~~ department has the discretion to allow ~~a waterworks~~ an owner, on a case-by-case basis, to forgo E. coli testing on a total coliform-positive sample if the owner

assumes that the total coliform-positive sample is E. coli positive. Accordingly, the owner must notify the ~~appropriate ODW field office~~ department as specified in subdivision F 1 of this subsection and the provisions of subdivision B 1 of this section apply.

G. Groundwater sources.

1. Groundwater sources shall be disinfected in accordance with ~~12VAC5-590-1000 when the total coliform geometric mean of 20 or more raw water samples measured by a method yielding a multiple portion decimal dilution (MPN) result is greater than three~~ 12VAC5-590-421 A 1 d when the results of the source water monitoring samples specified in 12VAC5-590-430 B 2 or 12VAC5-590-840 K 1 a indicate a total coliform concentration (geometric mean) of the 20 samples to be greater than 3 colonies/100 mL but less than 100 colonies/100 mL. The value 1.0 shall be used to represent a ~~negative zero~~ coliform result in the calculation of the geometric mean.

2. Groundwater sources ~~containing a total coliform geometric mean of 100 or more organisms per 100 milliliters or with more than 10% of these samples exceeding 100 organisms per 100 milliliters constitutes unacceptable eontamination for disinfection treatment only~~ source monitoring results conducted in accordance with 12VAC5-590-430 B 2 or 12VAC5-590-840 K 1 a that indicate a total coliform concentration equal to or greater than 100 colonies/100 ml constitutes contamination that is not treatable by single-barrier disinfection treatment alone.

3. Groundwater sources shall be disinfected in accordance the requirements of ~~12VAC5-590-1000~~ 12VAC5-590-421 A 1 d when the source water quality contributes to the waterworks' failure to meet the bacteriological PMCL specified in subsection B of this section.

4. ~~Groundwater sources shall be disinfected in accordance with 12VAC5-590-421 A 1 d when the results of source development samples specified in 12VAC5-590-840 B 11 indicate the presence of E. coli in two or more samples.~~

5. ~~Groundwater sources shall be disinfected in accordance with 12VAC5-590-421 A 1 d when the results of raw water monitoring conducted in accordance with 12VAC5-590-425 indicate the presence of E. coli in two or more samples during any running six-month period.~~

4. If the results of the source water monitoring required by 12VAC5-590-379 C or 12VAC5-590-430 B 2 indicate the presence of E. coli in two or more samples collected during any running six-month period, then the owner shall:

a. Issue a Tier 1 public notice in accordance with 12VAC5-590-540 A 1.

b. Provide disinfection treatment to achieve a 4-log virus inactivation and removal as specified in 12VAC5-590-421 A 1 d.

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c. Conduct compliance monitoring as specified in 12VAC5-590-421 B and 12VAC5-590-421 C.

5. If the results of the source water monitoring required in 12VAC5-590-379 C indicate total coliform concentration in excess of 50 colonies/100 mL in three or more samples collected during any running six-month period or the presence of E. coli in two or more samples collected during any running six-month period, then the source water shall be reevaluated for GUDI determination in accordance with 12VAC5-590-430.

6. The department may require that any groundwater source be disinfected in accordance with the requirements of 12VAC5-590-421 A 1 d.

H. Groundwater systems conducting source water monitoring as described in 12VAC5-590-379 shall determine the presence or absence of E. coli. All samples shall be analyzed [by laboratories that have received certification by EPA or DCLS as specified] in [accordance with] 12VAC5-590-440 [by the] Division of Consolidated Laboratory Services (DCLS) [DCLS or by a laboratory certified by the DCLS] for drinking water samples analyses.

12VAC5-590-382. Inorganic chemicals compliance.

A. When the results of sampling for antimony, arsenic, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, or thallium exceed the applicable PMCL, the owner shall collect a confirmation sample at the same sampling point within two weeks of notification of the analytical results of the first sample. The fluoride PMCL applies only to community waterworks.

1. The results of the initial and confirmation samples shall be averaged to determine compliance with subsection A of this section. The department has the discretion to delete results of obvious sampling errors.

2. Compliance with the PMCLs for antimony, arsenic, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, and thallium listed in Table 340.1 shall be determined based on the analytical results obtained at each sampling point.

a. For the owner of a waterworks that conducts monitoring more frequently than annually, compliance with the PMCL for antimony, arsenic, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, or thallium is determined by an RAA at each sampling point. If the average at any sampling point is greater than the PMCL, then the waterworks is out of compliance. If any single sample would cause the annual average to be exceeded, then the waterworks is out of compliance immediately. A sample result below the MDL shall be calculated as zero for the purpose of determining the annual average. If the owner fails to collect the required number of samples,

compliance (average concentration) shall be based on the total number of samples collected.

b. For the owner of a waterworks that monitors annually or less frequently, the waterworks is [not] out of compliance with the PMCL for antimony, arsenic, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, or thallium if the average of the original sample and a confirmation sample of a contaminant at any sampling point is greater than the PMCL. If sample results for the owner monitoring annually or less frequently exceed the PMCL, the owner shall begin quarterly sampling. The owner shall not be considered in violation of the PMCL until one year of quarterly sampling has been completed and the RAA is exceeded. However, if the confirmation sample is not collected, the owner is in violation of the PMCL for antimony, arsenic, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, or thallium. If the owner fails to collect the required number of samples, then compliance (average concentration) shall be based on the total number of samples collected.

B. Compliance with the PMCLs for nitrate and nitrite shall be determined based on the analytical results obtained at each sampling point. The waterworks is not out of compliance with the PMCL if the concentrations of these contaminants are equal to or below the PMCLs. Where nitrate or nitrite sample results exceed the PMCL, the owner shall collect a confirmation sample, from the same sampling point that exceeded the PMCL within 24 hours of the owner's receipt of the analytical results of the first sample. The results of the initial and confirmation sample shall be averaged to determine compliance. The owner unable to comply with the 24-hour sampling requirement shall immediately notify the consumers in the area served by the waterworks in accordance with 12VAC5-590-540 A 1. The owner exercising this option shall collect and analyze a confirmation sample within two weeks of notification of the analytical results of the first sample. The department may require more frequent monitoring. The department has the discretion to delete results of obvious sampling errors.

1. Nitrate nitrogen (NO₃-N) levels not exceeding 20 mg/L may be allowed in a noncommunity waterworks if the owner:

a. Demonstrates to the satisfaction of the department that this water will not be available to children under six months of age;

b. Provides continuous posting of the fact that NO₃-N levels exceed 10 mg/L and the potential health effects of exposure;

c. Notifies health officials annually of NO₃-N levels that exceed 10 mg/L; and

d. The department shall determine that no adverse health effects will result.

2. Nitrite in water poses a significant health hazard. Water with nitrite-nitrogen concentrations over 1 mg/L should not be used for infant feedings.

C. Compliance with the SMCLs for aluminum, chloride, copper, corrosivity, fluoride, foaming agents, iron, manganese, silver, sulfate, or zinc shall be determined based on the analytical results obtained at each sampling point. When the result of a sample exceeds the applicable SMCL, the owner shall collect a confirmation sample at the same sampling point within two weeks of notification of the analytical results of the first sample. The results of the initial and confirmation samples shall be averaged to determine compliance. If the average concentration level of any of these constituents exceeds the SMCL, then the department shall determine whether treatment for the constituents can be accomplished or more suitable source waters are, or can be made, available. This determination shall be made as quickly as possible. If either of these alternatives is feasible, then corrective action shall be promptly implemented by the owner if deemed necessary by the department. Exceeding the fluoride SMCL requires annual public notice in accordance with 12VAC5-590-540 G.

12VAC5-590-383. Organic chemicals compliance.

A. When the results of sampling indicate positive results for contaminants listed in Table 340.2, the owner shall collect a confirmation sample at the same sampling point within two weeks of notification of the analytical results of the first sample.

B. The results of the initial and confirmation samples shall be averaged to determine waterworks compliance in accordance with subsection C of this section. The department has the discretion to delete results of obvious sampling errors.

C. Compliance with Table 340.2 shall be determined based on the analytical results obtained at each sampling point. A sample result below the detection limit shall be calculated as zero for the purposes of determining the annual average. If the owner fails to collect the required number of samples, then compliance (average concentration) shall be based on the total number of samples collected.

1. For the owner of a waterworks that conducts monitoring more frequently than annually, compliance is determined by an RAA of all samples collected at each sampling point. If the annual average of any sampling point is greater than the PMCL, then the waterworks is out of compliance. If the initial sample or a subsequent sample would cause the annual average to be exceeded, then the waterworks is out of compliance immediately. A sample result below the detection limit shall be calculated as zero for purposes of determining the annual average.

2. If the owner is conducting monitoring annually or less frequently, then the owner is not in violation if the average of the initial and confirmation samples is greater than the PMCL for that contaminant; however, the owner shall begin

quarterly sampling. The owner will not be considered in violation of the PMCL until one year of quarterly sampling has been completed and the RAA is exceeded. If any sample will cause the RAA to exceed the PMCL at any sampling point, then the waterworks is immediately out of compliance with the PMCL.

12VAC5-590-384. Residual disinfectant, DBPs, and DBPPs compliance.

A. General requirements.

1. Where compliance is based on an RAA of monthly or quarterly samples or averages and the owner fails to monitor for TTHM, HAA5, or bromate, this failure to monitor shall be treated as a monitoring violation for the entire period covered by the annual average. Where compliance is based on an RAA of monthly or quarterly samples or averages and the owner's failure to monitor makes it impossible to determine compliance with MRDLs for chlorine and chloramines, this failure to monitor shall be treated as a monitoring violation for the entire period covered by the annual average.

2. All samples collected and analyzed under the provisions of this section shall be included in determining compliance, even if that number is greater than the minimum required.

3. The owner is in violation of the PMCL when the LRAA exceeds the PMCLs listed in Table 340.6 calculated based on four consecutive quarters of monitoring, or the LRAA calculated based on fewer than four quarters of data if the PMCL would be exceeded regardless of the monitoring results of subsequent quarters. The owner is in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating the LRAA if the owner fails to monitor.

B. Disinfection byproducts.

1. TTHM and HAA5.

a. The owner of a waterworks required to monitor quarterly shall calculate the LRAAs for TTHM and HAA5 using monitoring results collected under 12VAC5-590-374 F and determine that each LRAA does not exceed the PMCL in order to comply with the PMCLs listed in Table 340.6. If the owner fails to complete four consecutive quarters of monitoring, then the owner shall calculate compliance with the PMCL based on the average of the available data from the most recent four quarters. If the owner collects more than one sample per quarter at a monitoring location, then the owner shall average all samples collected in the quarter at that location to determine a quarterly average to be used in the LRAA calculation.

b. The owner of a waterworks required to monitor annually or less frequently shall determine that each sample collected is less than the PMCL in order to

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determine compliance with the PMCLs listed in Table 340.6. If any sample result exceeds the PMCL, then the owner shall comply with the requirements of 12VAC5-590-374 F 5. If no sample result exceeds the PMCL, then the sample result for each monitoring location is considered the LRAA for that monitoring location.

c. The owner is in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if the owner fails to monitor.

d. A waterworks has exceeded the operational evaluation level at any monitoring location where the sum of the two previous quarters' TTHM results plus twice the current quarter's TTHM result, divided by four to determine an average, exceeds 0.080 mg/L, or where the sum of the two previous quarters' HAA5 results plus twice the current quarter's HAA5 result, divided by four to determine an average, exceeds 0.060 mg/L.

(1) The owner of a waterworks that exceeds the operational evaluation level shall conduct an operational evaluation and submit a written report of the evaluation to the department on a form approved by the department no later than 90 days after being notified of the analytical result that caused the waterworks to exceed the operational evaluation level. The written report shall be made available to the public upon request.

(2) The operational evaluation report shall include an examination of the waterworks treatment and distribution operational practices, including source water conditions, storage tank operations, excess storage capacity, distribution system flushing, changes in source water or source water quality, and treatment changes or problems that may contribute to TTHM and HAA5 formation and what steps could be considered to minimize future exceedances.

(3) The owner may request and the department may allow the owner to limit the scope of the evaluation if the owner is able to identify the cause of the operational evaluation level exceedance. The request to limit the scope of the evaluation does not extend the schedule in subdivision B 1 d (1) of this section for submitting the written report. The department shall approve this limited scope of evaluation in writing, and the owner shall keep that approval with the completed report.

2. Bromate. Compliance shall be based on a running annual arithmetic average, computed quarterly, of monthly samples collected by the owner as prescribed by 12VAC5-590-374 H. For months in which the owner collects more than one sample, compliance is based on the average of all samples collected during the month. If the average result of the samples covering any consecutive four-quarter period exceeds the PMCL listed in Table 340.6, then the owner is in violation of the PMCL and shall notify the public pursuant to 12VAC5-590-540 A 2, in addition to reporting to the

department pursuant to 12VAC5-590-530 and 12VAC5-590-531. If the owner fails to complete 12 consecutive months of monitoring, then compliance with the PMCL for the last four-quarter compliance period shall be based on the average of the available data.

3. Chlorite. Compliance shall be based on an arithmetic average of each three-sample set collected in the distribution system as prescribed by 12VAC5-590-374 G. If the arithmetic average of any three-sample set exceeds the PMCL listed in Table 340.6, then the owner is in violation of the PMCL and shall notify the public pursuant to 12VAC5-590-540 A 2, in addition to reporting to the department pursuant to 12VAC5-590-530 and 12VAC5-590-531.

C. Residual disinfectant.

1. Chlorine and chloramines.

a. Compliance shall be based on a running annual arithmetic average, computed quarterly, of monthly averages of all samples collected by the owner under 12VAC5-590-374 I 1 a. If the average covering any consecutive four-quarter period exceeds the MRDL listed in Table 340.7, then the owner is in violation of the MRDL and shall notify the public pursuant to 12VAC5-590-540 A 2, in addition to reporting to the department pursuant to 12VAC5-590-530 and 12VAC5-590-531.

b. In cases where the owner switches between the use of chlorine and chloramines for residual disinfection during the year, compliance shall be determined by including together all monitoring results of both chlorine and chloramines in calculating compliance. Reports submitted pursuant to 12VAC5-590-530 and 12VAC5-590-531 shall clearly indicate which residual disinfectant was analyzed for each sample.

c. Notwithstanding the MRDLs listed in Table 340.7, operators may increase the residual disinfectant levels of chlorine or chloramines in the distribution system to a level and for a time necessary to protect public health to address specific microbiological contamination problems caused by circumstances such as water main breaks in the distribution system, storm runoff events, source water contamination, or cross-connections.

2. Chlorine dioxide.

a. Acute violations. Compliance shall be based on consecutive daily samples collected by the owner under 12VAC5-590-374 I 2 a. If any daily sample collected at the entrance to the distribution system exceeds the MRDL listed in Table 340.7, and on the following day one or more of the three samples collected in the distribution system exceed the MRDL, then the owner is in violation of the MRDL and shall take immediate corrective action to lower the level of chlorine dioxide below the MRDL and shall notify the public pursuant to the procedures for

Tier 1 conditions in 12VAC5-590-540 A 1 in addition to reporting to the department pursuant to 12VAC5-590-530 and 12VAC5-590-531. Failure to collect samples in the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system shall also be considered an MRDL violation, and the owner shall notify the public of the violation in accordance with the provisions for Tier 1 conditions in 12VAC5-590-540 A 1 in addition to reporting to the department pursuant to 12VAC5-590-530 and 12VAC5-590-531.

b. Nonacute violations. Compliance shall be based on consecutive daily samples collected by the owner under 12VAC5-590-374 I 2 a. If any two consecutive daily samples collected at the entrance to the distribution system exceed the MRDL listed in Table 340.7 and all distribution system samples collected are below the MRDL, then the owner is in violation of the MRDL and shall take corrective action to lower the level of chlorine dioxide below the MRDL at the point of sampling and shall notify the public pursuant to the procedures for Tier 2 conditions in 12VAC5-590-540 A 2 in addition to reporting to the department pursuant to 12VAC5-590-530 and 12VAC5-590-531. Failure to monitor at the entrance to the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system is also an MRDL violation, and the owner shall notify the public of the violation in accordance with the provisions for Tier 2 conditions in 12VAC5-590-540 A 2 in addition to reporting to the department pursuant to 12VAC5-590-530 and 12VAC5-590-531.

D. Disinfection byproduct precursors (DBPPs).

1. Compliance shall be determined as specified by 12VAC5-590-411 A 3.

2. For the owner required to meet Step 1 TOC removals, if the value calculated under 12VAC5-590-411 A 3 a (4) is less than 1.00, then the owner is in violation of the treatment technique requirements and shall notify the public pursuant to 12VAC5-590-540 A 2 in addition to reporting to the department pursuant to 12VAC5-590-530 and 12VAC5-590-531.

12VAC5-590-385. Lead and copper action-level AL compliance.

A. The lead ~~action-level~~ AL is exceeded if the concentration of lead in more than 10% of tap water samples collected during any monitoring period conducted in accordance with 12VAC5-590-375 B is greater than 0.015 mg/L (i.e., if the 90th percentile lead level is greater than 0.015 mg/L).

B. The copper ~~action-level~~ AL is exceeded if the concentration of copper in more than 10% of tap water samples collected during any monitoring period conducted in accordance with 12VAC5-590-375 B is greater than 1.3 mg/L

(i.e., if the 90th percentile copper level is greater than 1.3 mg/L).

C. The 90th percentile lead and copper levels shall be computed as follows:

1. The results of all lead or copper samples taken during a monitoring period shall be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. Each sampling result shall be assigned a number, ascending by single integers beginning with the number 1 for the sample with the lowest contaminant level. The number assigned to the sample with the highest contaminant level shall be equal to the total number of samples taken.
2. The number of samples taken during the monitoring period shall be multiplied by 0.9.
3. The contaminant concentration in the numbered sample yielded by the calculation in subdivision C 2 of this section is the 90th percentile contaminant level.
4. For a waterworks serving fewer than 100 people ~~that collect~~, and the owner collects five samples per monitoring period, the 90th percentile is computed by taking the average of the highest and second highest concentrations.
5. For ~~an~~ the owner that has been allowed by the ~~commissioner~~ department to collect fewer than five samples in accordance with 12VAC5-590-375 B 3, the sample result with the highest concentration is considered the 90th percentile value.

12VAC5-590-388. Radiological compliance.

A. MCLGs for radionuclides are listed in Table 546.1 of 12VAC5-590-546 B.

B. PMCLs for radionuclides are applicable to community waterworks only and are listed in Table 340.4. Compliance with PMCLs will be determined based on the analytical results obtained at each entry point. If the sample result at one entry point exceeds the PMCL, then the owner is in violation of the PMCL.

1. For the owner that is monitoring more than once per year, compliance with the PMCL is determined by an RAA of the analytical results at each entry point. If the average result at any entry point is greater than the PMCL, then the waterworks is out of compliance with the PMCL.

2. For the owner of a waterworks that monitors more than once per year, if any sample result will cause the RAA to exceed the PMCL at any entry point, then the waterworks is out of compliance with the PMCL immediately.

3. All samples collected and analyzed under the provisions 12VAC5-590-378 shall be included in determining compliance, even if that number is greater than the minimum required.

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4. If the owner does not collect all required samples when compliance is based on an RAA result of quarterly samples, then compliance will be based on the RAA result of the samples collected.

5. If a sample result is less than the detection limit as specified in Table 378.1, then zero will be used to calculate the RAA unless a gross alpha particle activity result is being used instead of radium-226 or uranium. If the gross alpha particle activity result is less than the detection limit as specified in Table 378.1, then one half the detection limit will be used to calculate the RAA.

C. Radiological (gross alpha, combined radium-226 and radium-228, uranium, and man-made radioactivity).

1. Compliance with the radiological PMCLs shall be based on the RAA results. PMCLs are indicated in Table 340.4. Sampling for radiological analysis shall be in compliance with 12VAC5-590-378.

2. Compliance shall be determined by rounding off results to the same number of significant figures as the PMCL for the radionuclide in question.

D. If a PMCL for radioactivity listed in Table 340.4 is exceeded, then the owner shall give notice to the department pursuant to 12VAC5-590-530 and to the public as required by 12VAC5-590-540 A 2.

12VAC5-590-390. ~~Chemical and physical quality~~ Physical constituent compliance.

A. Necessary action for noncompliance.

1. ~~Inorganic chemicals. See 12VAC5-590-530 B and 12VAC5-590-540.~~

2. ~~Organic chemicals. See 12VAC5-590-530 B and 12VAC5-590-540.~~

3. ~~Turbidity. See 12VAC5-590-530 B and 12VAC5-590-540.~~

A. Color, odor, pH, and total dissolved solids.

1. When the sampling results for color, odor, pH, or total dissolved solids exceed the applicable SMCL, the owner shall collect a confirmation sample at the same sampling site within two weeks of notification of the analytical results of the first sample.

2. The results of the initial and confirmation samples shall be averaged to determine compliance with 12VAC5-590-340 C. The department has the discretion to void results of obvious sampling errors.

4. ~~3. If the average concentration level of a substance of any contaminant of color, odor, pH, or total dissolved solids is greater than the Secondary Maximum Contaminant Level SMCL listed in Table 340.3, then the division will determine whether treatment to remove the~~

~~substance that contaminant can be accomplished or more suitable supplies of source water are, or can be made, available. This determination will be made as quickly as possible. If either of these alternatives is possible, corrective action shall be promptly taken by the owner if deemed necessary by the division.~~

B. Specific limits. No attempt has been made to prescribe specific limits for every contaminant that might enter a water supply or waterworks. Although the need exists for continued attention to the entry of chemical and physical substances into water, the limits are confined to substances recognized as being detrimental to the health or well being of the consumer. Limits for innumerable substances would require an impossible burden of analytical examination. The specific limits included in these regulations are listed in Tables 2.2, 2.3, and 2.4. Turbidity in groundwater sources not required to filter shall not:

1. Interfere with disinfection throughout the distribution system;

2. Cause taste and odors upon disinfection; or

3. Cause consumers to question the safety of their drinking water.

12VAC5-590-391. Treatment technique requirements.

A. When it is not technically or economically feasible to monitor for a particular PMCL or a contaminant, one or more specific treatment techniques that lead to a reduction in the concentration level of that contaminant shall be required. The application of that treatment technique reduces the contaminant in question to a concentration level that achieves compliance with this chapter.

B. Failure to continuously maintain the treatment technique is a violation of this chapter and public notification in accordance with 12VAC5-590-540 A 2 is required.

12VAC5-590-392. Coliform treatment technique triggers and assessment requirements.

A. Assessments shall be conducted in accordance with subsections C, D, and E of this section after exceeding treatment technique triggers.

B. Treatment technique triggers.

1. Level 1 treatment technique triggers:

a. For ~~owners~~ the owner required to collect 40 or more samples per month, the number of total coliform-positive samples exceeds 5.0% of the number of samples collected for the month.

b. For ~~owners~~ the owner required to collect fewer than 40 samples per month, when there are two or more total coliform-positive samples in the same month.

c. The owner fails to collect every required repeat sample after any single total coliform-positive sample.

2. Level 2 treatment technique triggers:

- a. An E. coli PMCL violation, as specified in 12VAC5-590-380 B 2.
- b. A second Level 1 trigger occurs within a rolling 12-month period, unless the ~~commissioner~~ department has determined a likely reason for the first Level 1 treatment technique trigger and that the owner has corrected the problem.

C. Assessment requirements.

1. Level 1 and 2 assessments shall be conducted ~~in order~~ to identify the possible presence of sanitary defects and defects in the distribution system coliform monitoring practices. The owner shall be responsible for conducting Level 1 assessments. Level 2 assessments shall be conducted by the ~~commissioner~~ department.

2. When conducting Level 1 and Level 2 assessments, the assessor shall include:

- a. ~~A review~~ An evaluation and identification of inadequacies in sample sites, sampling protocol, and sample processing;
- b. ~~A review~~ An evaluation of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired;
- c. ~~Evaluation~~ An evaluation of changes in distribution system maintenance and operation that could affect distributed water quality, including water storage;
- d. ~~Evaluation~~ An evaluation of source and treatment considerations that impact distributed water quality; and
- e. ~~Evaluation~~ An evaluation of existing water quality monitoring data.

3. Level 1 assessment.

- a. The owner shall complete the assessment and document the assessment on ~~the Waterworks Level 1 Assessment form~~ a form approved by the department. The owner shall submit the assessment form, as soon as practical, but within 30 days after the owner learns that a trigger in subdivision B 1 of this section has been exceeded.
- b. If the ~~commissioner~~ department ~~reviews~~ evaluates the completed Level 1 assessment and determines that the assessment is not sufficient, including any proposed timetable for any corrective actions, then the ~~commissioner~~ department shall consult with the owner. If the ~~commissioner~~ department requires revisions after the consultation, then the owner shall submit a revised assessment form to the ~~appropriate ODW field office~~ department on an agreed upon schedule not to exceed 30 days from the date of consultation.
- c. Upon completion and submission of the assessment form by the owner, the ~~commissioner~~ department shall determine if the owner has identified a likely cause for the Level 1 trigger and, if so, confirm that the owner has

corrected the problem or has included a schedule acceptable to the ~~commissioner~~ department for correcting the problem.

4. Level 2 assessment.

- a. ~~ODW~~ The department will complete the assessment and document the assessment ~~on the Waterworks Level 2 Assessment form~~ on a form approved by the department. ~~ODW staff~~ The department will consult with the owner during the assessment and complete the assessment within 30 days upon learning ~~a~~ that the waterworks has exceeded any trigger in subdivision B 2 of this section.
- b. The ~~commissioner~~ department will send to the owner the completed assessment form, which will describe any detected sanitary defects, corrective actions completed or needed and, if needed, a timetable to complete the corrective actions. The owner will return the form within seven days with a signature that indicates concurrence with the listed actions needed and timetable to complete the corrective actions. If the owner does not concur with either an action or timetable to complete a corrective action, then the owner shall notify the ~~commissioner~~ department, complete consultation with the ~~commissioner~~ department, and develop a revised corrective action schedule. The owner shall submit the revised schedule to the ~~commissioner~~ department for ~~review~~ evaluation and approval within 30 days of the date of the consultation.

D. Corrective actions.

- 1. The owner shall correct sanitary defects found through either the Level 1 or the Level 2 assessment conducted under subsection C of this section.
- 2. The owner shall complete the ~~corrective action~~ or corrective actions in compliance with the timetable approved by the ~~commissioner~~ department in consultation with the owner. The owner shall notify the ~~appropriate ODW field office~~ department no later than seven days after each scheduled corrective action is completed.

E. Consultation.

- 1. At any time during the assessment or corrective action phase, either the owner or the ~~commissioner~~ department may request a consultation with the other party to determine the appropriate actions to be taken.
- 2. The owner may consult with the ~~commissioner~~ department on all relevant information that may impact the ability to comply with subsection D of this section.

F. Violations. Failure to conduct the required assessment or corrective actions in accordance with subsections C and D of this section, after exceeding a treatment technique trigger specified in subsection B of this section, is a treatment technique violation. The owner shall provide public notification as required under Tier 2 conditions specified in 12VAC5-590-540 A 2.

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12VAC5-590-395. Surface water and GUDI sources, polymers, and recycle treatment techniques.

A. Surface water and GUDI source treatment techniques.

1. The filtration and disinfection provisions of this section are required treatment techniques for a waterworks supplied by a surface water source, a GUDI source, or both. These treatment technique requirements are in place of a PMCL for the following contaminants: Giardia lamblia, viruses, heterotrophic bacteria, Cryptosporidium, Legionella, and turbidity. A waterworks that uses a surface water source, a GUDI source, or both shall provide treatment of that source water that complies with these treatment technique requirements. See 12VAC5-590-401 for filtration log removal credits and required log inactivation for Cryptosporidium. See 12VAC5-590-500 for log removal credits and required log inactivation for Giardia lamblia and viruses. These treatment technique requirements consist of installing and properly operating water treatment processes that reliably achieve:

- a. At least 99.9% (3-log) removal or inactivation of Giardia lamblia between a point where the source water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer;
- b. At least 99.99% (4-log) removal or inactivation of viruses between a point where the source water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer; and
- c. At least 99% (2-log) removal of Cryptosporidium between a point where the source water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer.

2. A waterworks that uses a surface water source, a GUDI source, or both is considered to be in compliance with the requirements of subdivision A 1 of this section if it meets the following disinfection and filtration requirements:

a. Disinfection requirements.

(1) The disinfection treatment shall be sufficient to ensure that the total treatment processes of that waterworks achieve at least 99.9% (3-log) inactivation or removal of Giardia lamblia and at least 99.99% (4-log) inactivation or removal of viruses. If any physical process can achieve at least a 3-log removal of Giardia lamblia but cannot adequately remove pathogens, then the disinfection treatment shall provide a second treatment barrier for Giardia lamblia, Legionella, heterotrophic bacteria, and viruses. The disinfection treatment shall be sufficient to assure at least a 0.5 log inactivation of Giardia lamblia.

(2) The residual disinfectant concentration in the water entering the distribution system shall not be less than 0.2 mg/L for more than four hours.

(3) The residual disinfectant concentration in the distribution system, measured as total chlorine, free

chlorine, combined chlorine, or chlorine dioxide, shall not be undetectable in more than 5% of the samples each month, for any two consecutive months that the waterworks serves water to the public. If the department determines that a waterworks is experiencing excessive coliform occurrences in its distribution system, then the department may require the owner to maintain minimum chlorine residual levels of 0.2 mg/L or monochloramine levels of 0.5 mg/L throughout the distribution system. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500/mL, measured as HPC, is deemed to have a detectable residual disinfectant for the purposes of determining compliance with this requirement. Thus, the value "V," in percent, in the following formula shall not exceed 5% in one month, for any two consecutive months.

$$V = [(c + d + e) / (a + b)] \times 100$$

where

a = number of instances where the residual disinfectant concentration is measured;

b = number of instances where the residual disinfectant concentration is not measured but HPC is measured;

c = number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured;

d = number of instances where no residual disinfectant concentration is detected and where the HPC is greater than 500/mL; and

e = number of instances where the residual disinfectant concentration is not measured and HPC is greater than 500/mL.

(4) The department may determine that the HPC compliance requirements of subdivision A 2 a (3) of this section do not apply based on site-specific considerations or if an owner has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions and the waterworks is providing adequate disinfection in the distribution system.

b. Filtration requirements. A waterworks that uses a surface water source, a GUDI source, or both shall provide filtration treatment by using one of the following methods:

(1) Conventional filtration.

(a) Achieve a filtered water turbidity of less than or equal to 0.3 NTU in at least 95% of the measurements taken each month. Samples shall be representative of the waterworks' filtered water.

(b) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed one NTU, measured as specified in 12VAC5-590-440.

(c) A waterworks that uses lime softening may acidify representative samples before analysis using a protocol approved by the department.

(d) Water treatment plants utilizing conventional or direct filtration with gravity flow granular media filters are capable of producing filtered water with turbidity consistently less than 0.10 NTU. Therefore, for these types of water treatment plants, the operational goal for filter effluent turbidity for each filter, before any post-filtration chemical addition, shall be 0.10 NTU.

(2) Diatomaceous earth filtration.

(a) The turbidity level of representative samples of a waterworks' filtered water shall be less than or equal to one NTU in at least 95% of the measurements taken each month.

(b) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed five NTU.

(3) Slow sand filtration.

(a) The turbidity level of representative samples of a waterworks' filtered water shall be less than or equal to one NTU in at least 95% of the measurements taken each month, except that if the department determines there is no significant interference with disinfection at a higher turbidity level, then the department may substitute this higher turbidity limit for that waterworks.

(b) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed five NTU.

(4) Membrane filters, bag filters, and cartridge filters.

(a) The turbidity level of representative samples of a waterworks' filtered water shall be less than or equal to 0.3 NTU in at least 95% of the measurements taken each month, except that if the department determines there is no significant interference with disinfection at a higher turbidity level, then the department may substitute this higher turbidity limit for that waterworks.

(b) Water treatment plants utilizing membrane filtration are capable of producing filtered water with turbidity consistently less than 0.05 NTU. Therefore, for these types of water treatment plants, the operational goal for filter effluent turbidity for each filter, before any post-filtration chemical addition, is 0.05 NTU.

(c) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed one NTU.

(5) The owner may use a filtration technology not listed in this section if the owner demonstrates to the satisfaction of the department by full-scale, pilot plant, or challenge studies, or by other approved means that the alternative filtration technology, in combination with disinfection, will meet the requirements of this section.

3. Once the department has determined that a waterworks utilizes a surface water source, a GUDI source, or both (see 12VAC5-590-430), then filtration and disinfection treatments are required. The owner shall install and have in operation treatment units that meet the requirements described in subdivisions A 1 and A 2 of this section no later than 18 months following the department's determination. During the interim period, and until filtration and disinfection treatments are installed and in operation, the owner shall discontinue use of the surface water source, GUDI source, or both unless the source must remain in service because discontinuing the source is not a viable option, at which point the owner shall:

a. Issue a continuous boil water notice through the public notification procedure in 12VAC5-590-540 A 1 until the required filtration and disinfection treatments are installed and are in operation;

b. Provide disinfection treatment to achieve a 4-log inactivation of virus during the interim period before the filtration treatment is installed. Monitoring equipment shall be installed that will ensure compliance with this requirement; and

c. Increase bacteriological sampling frequency in the distribution system. For the owner required to collect routine distribution system bacteriological samples at a monthly frequency, the owner shall collect twice the number of samples required for that population each month. For the owner required to collect routine bacteriological samples at a quarterly frequency, the owner shall increase the sampling frequency to monthly.

B. Polymer treatment techniques.

1. The owner shall certify annually in writing to the department (using third-party or manufacturer's certification) that, when polymers containing acrylamide or epichlorohydrin are used by the waterworks, the combination (or product) of dose and monomer level does not exceed the following specified levels:

a. Acrylamide = 0.05% dosed at one ppm (or equivalent) of polymer.

b. Epichlorohydrin = 0.01% dosed at 20 ppm (or equivalent) of polymer.

2. Certifications may rely on the manufacturers or third parties as approved by the department.

C. Recycle treatment techniques.

1. If spent filter backwash water, thickener supernatant, or liquids from dewatering processes are recycled, in a waterworks supplied by a surface water source, a GUDI source, or both that employ conventional filtration or direct filtration treatment, then the waterworks is subject to the treatment technique requirement described in subsection A of this section.

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2. Under this requirement, recycle flows shall be returned through all the processes of the treatment system or an alternative location approved by the department.

12VAC5-590-400. Radiological quality. (Repealed.)

~~The effects of human radiation exposure are viewed as harmful, and any unnecessary exposure to ionizing radiation should be avoided.~~

~~A. Maximum contaminant level goals for radionuclides are listed in subsection A of Table 2.5 of 12VAC5-590-440.~~

~~B. Maximum contaminant levels for radionuclides are applicable to community waterworks only and are listed in this section and subsection B of Table 2.5.~~

~~1. (Reserved.)~~

~~2. PMCL for combined radium 226 and radium 228. The primary maximum contaminant level for combined radium 226 and radium 228 is 5 pCi/L. The combined radium 226 and radium 228 value is determined by the addition of the results of the analysis for radium 226 and the analysis for radium 228.~~

~~3. PMCL for gross alpha particle activity (excluding radon and uranium). The primary maximum contaminant level for gross alpha particle activity (including radium 226 but excluding radon and uranium) is 15 pCi/L.~~

~~4. PMCL for uranium. The primary maximum contaminant level for uranium is 30 µg/L.~~

~~5. PMCL for beta particle and photon radioactivity.~~

~~a. The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water must not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year (mrem/year).~~

~~b. Except for the radionuclides listed in schedule 1 of Table 2.5, the concentration of man-made radionuclides causing 4 mrem total body or organ dose equivalents must be calculated on the basis of 2 liter per day drinking water intake using the 168 hour data list in "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," NBX (National Bureau of Standards) Handbook 69 as amended August 1963, U.S. Department of Commerce. A copy of this document may be reviewed at the Virginia Department of Health Office of Drinking Water office in Richmond, Virginia. If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 mrem/year.~~

~~6. Compliance dates. Compliance dates for combined radium 226 and radium 228, gross alpha particle activity, gross beta particle and photon radioactivity, and uranium: community waterworks owners must comply with the PMCLs listed in subdivisions 2, 3, 4, and 5 of this subsection beginning December 8, 2003, and compliance shall be determined in accordance with the requirements of 12VAC5-590-370 D. Compliance with reporting requirements for the radionuclides under 12VAC5-590-545 and 12VAC5-590-540 is required on December 8, 2003.~~

12VAC5-590-401. Enhanced filtration and disinfection for Cryptosporidium treatment techniques.

A. A waterworks using a surface water source, a GUDI source, or both shall comply with the requirements of this section based on their population or if the waterworks is a wholesaler, based on the population of the largest waterworks in the combined distribution system.

B. The owner shall conduct an initial and a second round of source water monitoring for each water treatment plant that treats a surface water source, a GUDI source, or both. This monitoring may include sampling for Cryptosporidium, E. coli, and turbidity to determine what level, if any, of additional Cryptosporidium treatment is required.

1. Initial round of source water monitoring. The owner shall conduct the following monitoring on the schedule in subdivision B 3 of this section unless the monitoring avoidance criteria in subdivision B 4 of this section are met.

a. The owner of a waterworks serving at least 10,000 people shall sample the source water for Cryptosporidium, E. coli, and turbidity at least monthly for 24 months.

b. The owner of a waterworks serving fewer than 10,000 people:

(1) Shall sample the source water for E. coli at least once every two weeks for 12 months, or

(2) May avoid E. coli monitoring if the owner notifies the department that the owner will monitor for Cryptosporidium as described in subdivision B 1 c of this section. The owner shall notify the department no later than three months before the date at which the owner is otherwise required to start E. coli monitoring.

c. The owner of a waterworks serving fewer than 10,000 people shall sample the source water for Cryptosporidium at least twice per month for 12 months or at least monthly for 24 months if the owner meets one of the following, based on monitoring conducted under subdivision B 1 b of this section:

(1) For a waterworks using source water from a lake or reservoir, the annual mean E. coli concentration is greater than 10 E. coli/100 mL.

(2) For a waterworks using source water from flowing stream, the annual mean E. coli concentration is greater than 50 E. coli/100 mL.

(3) The waterworks does not conduct E. coli monitoring as described in subdivision B 1 b of this section.

(4) The waterworks using a GUDI source shall comply with the requirements of this subdivision B 1 c based on the E. coli level that applies to the nearest surface water body. If no surface water body is nearby, the waterworks shall comply based on the requirements that apply to a waterworks using source water from a lake or reservoir.

d. For the waterworks serving fewer than 10,000 people, the department may approve monitoring for an indicator other than E. coli under subdivision B 1 b (1) of this section. The department also may approve an alternative to the E. coli concentration in subdivision B 1 c (1), B 1 c (2), or B 1 c (4) of this section to trigger *Cryptosporidium* monitoring. This approval by the department shall be provided to the owner in writing and shall include the basis for the department's determination that the alternative indicator or trigger level will provide a more accurate identification of whether a waterworks will exceed the Bin 1 *Cryptosporidium* level in subdivision B 1 a of this section.

e. The waterworks may sample more frequently than required under this section if the sampling frequency is evenly spaced throughout the monitoring period.

2. Second round of source water monitoring. The owner shall conduct a second round of source water monitoring that meets the requirements for monitoring parameters, frequency, and duration described in subdivision B 1 of this section, unless the monitoring exemption criteria in subdivision B 4 of this section are met. The owner shall conduct this monitoring on the schedule in subdivision B 3 of this section.

3. Monitoring schedule. The owner shall begin the monitoring required in subdivisions B 1 and B 2 of this section no later than the month beginning with the date listed in Table 401.1:

EDITOR'S NOTE: Tables 401.1 through 401.7 are not further amended from the proposed regulation, therefore they are not published. View the tables as proposed at [36:6 VA.R. 475-845 November 11, 2019](#).

4. Monitoring avoidance.

a. The owner is not required to conduct source water monitoring if the waterworks will provide a total of at least 5.5-log of treatment for *Cryptosporidium*, equivalent to meeting the treatment requirements of Bin 4 in subdivision D 2 of this section.

b. If the owner chooses to provide the level of treatment in subdivision B 4 a of this section, rather than start source water monitoring, then the owner shall notify the department in writing no later than the date the owner is otherwise required to submit a sampling schedule for monitoring under subdivision B 5 of this section. Alternatively, the owner may choose to stop sampling at any point after initiating monitoring if the owner notifies the department in writing that he will provide this level of treatment. The owner shall install and operate technologies to provide this level of treatment by the applicable treatment compliance date in subdivision D 3 of this section.

5. Sampling schedules.

a. The owner of a waterworks required to conduct source water monitoring in accordance with subsection B of this section shall submit a sampling schedule that specifies the calendar dates when the owner shall collect each required sample.

(1) The owner shall submit a sampling schedule to the department no later than three months before the applicable date listed in subdivision B 3 of this section for each round of required monitoring.

(2) If the department does not respond to the owner regarding the sampling schedule, then the owner shall sample at the reported schedule.

b. The owner shall collect samples within two days before or two days after the dates indicated in the sampling schedule (i.e., within a five-day period around the schedule date) unless one of the conditions of this subdivision b applies:

(1) If an extreme condition or situation exists that may pose danger to the sample collector or that cannot be avoided and causes the owner to be unable to sample in the scheduled five-day period, then the owner shall sample as close to the scheduled date as is feasible unless the department approves an alternative sampling date. The owner shall submit an explanation for the delayed sampling date to the department concurrent with the shipment of the sample to the laboratory.

(2) If the owner is unable to report a valid analytical result for a scheduled sampling date due to equipment failure, loss of or damage to the sample, failure to comply with the analytical method requirements, including the quality control requirements of 12VAC5-590-440, or the failure of an approved laboratory to analyze the sample, then the owner shall collect a replacement sample. The owner shall collect the replacement sample not later than 21 days after receiving information that an analytical result cannot be reported for the scheduled date unless the owner demonstrates that collecting a replacement sample within this timeframe is not feasible or the department approves an alternative resampling date. The owner shall submit an explanation for the delayed sampling date to the department concurrent with the shipment of the sample to the laboratory.

c. The owner of a waterworks that fails to meet the criteria of subdivision B 5 b of this section for any source water sample required under subsection B of this section shall revise the sampling schedule to add dates for collecting all missed samples. The owner shall submit the revised schedule to the department for approval before the owner begins collecting the missed samples.

6. Sampling locations.

a. The owner of a waterworks required to conduct source water monitoring under subsection B of this section shall collect samples for each water treatment plant that treats a

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surface water source, a GUDI source, or both. Where multiple water treatment plants draw source water from the same influent, such as the same pipe or intake, the department may approve one set of monitoring results to be used to satisfy the requirements of subsection B of this section for all water treatment plants.

b. The owner shall collect source water samples before chemical treatment, such as coagulants, oxidants, and disinfectants. However, the department may approve the collection of a source water sample after chemical treatment. To grant this approval, the department shall determine that collecting a sample before chemical treatment is not feasible for the owner and that the chemical treatment is unlikely to have a significant adverse effect on the analysis of the sample.

c. The owner of a waterworks that recycles filter backwash water shall collect source water samples before the point of filter backwash water addition.

d. Bank filtration.

(1) The owner that receives Cryptosporidium treatment credit for bank filtration under 12VAC5-590-395 A 2 b (1) shall collect source water samples from the surface water before bank filtration.

(2) The owner that uses bank filtration as pretreatment to a water treatment plant shall collect source water samples from the well (i.e., after bank filtration). The use of bank filtration during monitoring shall be consistent with routine operational practice. The owner collecting samples after a bank filtration process may not receive treatment credit for the bank filtration under subdivision E 4 c of this section.

e. Multiple sources. The owner of a waterworks that uses multiple source waters, including multiple surface water sources and blended surface water and groundwater sources, shall collect samples as specified in subdivision B 6 e (1) or B 6 e (2) of this section. The use of multiple source waters during monitoring shall be consistent with routine operational practice.

(1) If a sampling tap is available where the source waters are combined before treatment, then the owner shall collect samples from the tap.

(2) If a sampling tap is not available where the source waters are combined before treatment, then the owner shall collect samples at each source near the intake on the same day and shall follow either subdivision B 6 e (2) (a) or B 6 e (2) (b) of this section for sample analysis.

(a) The owner may composite samples from each source into one sample before analysis. The volume of sample from each source shall be weighted according to the proportion of the source water in the total water treatment plant flow at the time the sample is collected.

(b) The owner may choose to have samples analyzed from each source separately and calculate a weighted average

of the analysis results for each sampling date. The weighted average shall be calculated by multiplying the analysis result for each source water by the fraction the source water contributed to the total water treatment plant flow at the time the sample was collected and then summing these values.

f. Additional requirements. The owner shall submit a description of each sampling location to the department at the same time as the sampling schedule required in subdivision B 3 of this section. This description shall address the position of the sampling location in relation to the waterworks' source waters and treatment processes, including pretreatment, points of chemical treatment, and filter backwash recycle. If the department does not respond to an owner regarding sampling location, then the owner shall sample at each reported location.

7. Analytical methods. All analytical methods shall be conducted in accordance with 12VAC5-590-440.

8. Approved laboratories.

a. Cryptosporidium. The owner shall have Cryptosporidium samples analyzed by a laboratory that has received reciprocal certification approved under the DCLS Laboratory Certification Program for Analysis of Cryptosporidium in Water.

b. E. coli. A laboratory certified by the DCLS for total coliform analysis under 12VAC5-590-440 is approved for E. coli analysis when the laboratory uses the same technique for E. coli that the laboratory uses under 12VAC5-590-440. Laboratories shall use methods for enumeration of E. coli in source water approved in 12VAC5-590-440.

c. Turbidity. Measurements of turbidity shall be made by a party approved by the department.

9. Reporting of the source water results shall be in accordance with 12VAC5-590-531.

10. The owner of a waterworks treating a surface water source, a GUDI source, or both, that operates for only part of the year shall conduct source water monitoring in accordance with this section, but with the following modifications:

a. The owner shall sample the source water only during the months that the waterworks operates unless the department specifies another monitoring period based on waterworks operating practices.

b. The owner of a waterworks that operates less than six months per year and that monitors for Cryptosporidium shall collect at least six Cryptosporidium samples per year during each of two years of monitoring. Samples shall be evenly spaced throughout the period the waterworks operates.

11. New sources.

a. The owner of a waterworks that begins using a surface water source, a GUDI source, or both, is required to begin monitoring under subdivision B 3 of this section and shall monitor the new source on a schedule approved by the department. Source water monitoring shall meet the requirements of this section. The owner shall also meet the bin classification and Cryptosporidium treatment requirements of subdivisions D 1 and D 2 of this section, for the new source on a schedule approved by the department.

b. The requirements of this section apply to a waterworks using a surface water source, a GUDI source, or both, that begins operation after the monitoring start date applicable to the size of the waterworks under subdivision B 3 of this section.

c. The owner shall begin a second round of source water monitoring no later than six years following the initial bin classification under subdivision D 1 of this section.

12. Failure to collect any source water sample required under this section in accordance with the sampling schedule, sampling location, analytical method, approved laboratory, and reporting requirements of subdivisions B 5 through B 9 of this section is a monitoring violation.

13. Grandparenting monitoring data. The owner may use [grandparenting] monitoring data collected before the applicable monitoring start date in subdivision B 3 of this section [(grandparented data)] to meet the initial source water monitoring requirements in subdivision B 1 of this section. Grandparented data may be substituted for an equivalent number of months at the end of the monitoring period. All data submitted under this subdivision B 13 shall meet the requirements in subdivisions B 13 a through B 13 h of this section and be approved by the department:

a. The owner may grandparent Cryptosporidium samples to meet the requirements of this section when the owner does not have corresponding E. coli and turbidity samples. The owner who grandparents Cryptosporidium samples without E. coli and turbidity samples is not required to collect E. coli and turbidity samples when the owner completes the requirements for Cryptosporidium monitoring under this section.

b. The analysis of E. coli samples shall meet the analytical method and approved laboratory requirements of subdivisions B 7 and B 8 of this section.

c. The analysis of Cryptosporidium samples shall meet the requirements of subdivision B 8 of this section.

d. The sampling location shall meet the conditions in subdivision B 6 of this section.

e. Cryptosporidium sample collection intervals may vary for the conditions specified in subdivisions B 5 b (1) and B 5 b (2) of this section if the owner provides documentation of the condition when reporting monitoring results.

(1) The department may approve grandparenting of previously collected data where there are time gaps in the sampling frequency if the owner conducts additional monitoring the department specifies to ensure that the data used to comply with the initial source water monitoring requirements of subsection B of this section are seasonally representative and unbiased.

(2) The owner may grandparent previously collected data where the sampling frequency within each month varied. If the Cryptosporidium sampling frequency varied, then the owner shall follow the monthly averaging procedure in subdivision D 1 a (5) of this section when calculating the bin classification for a filtered waterworks.

f. The owner of a waterworks that requests to grandparent previously collected monitoring results shall report the following information by the applicable dates listed in the following subdivisions. The owner shall report this information to the department.

(1) The owner shall report the intent to submit previously collected monitoring results for grandparenting. This report shall specify the number of previously collected results the owner shall submit, the dates of the first and last sample, and whether an owner shall conduct additional source water monitoring to meet the requirements in subsection B of this section. The owner shall report this information no later than the date the sampling schedule listed in subdivision B 3 of this section is required.

(2) The owner shall report previously collected monitoring results for grandparenting no later than two months after the applicable date listed in subdivision B 3 of this section.

(a) For each sample result, the owner shall report the applicable data elements in 12VAC5-590-531 A 5.

(b) The owner shall certify that the reported monitoring results include all results the waterworks generated during the time period beginning with the first reported result and ending with the final reported result. This applies to samples that were collected from the sampling location specified for source water monitoring under subdivision B 1 of this section, not spiked, and analyzed using the laboratory's routine process for the analytical methods listed in this section.

(c) The owner shall certify that the samples were representative of a waterworks' source waters and the source waters have not changed. The owner shall report a description of each sampling location, which shall address the position of the sampling location in relation to the waterworks' source waters and treatment processes, including points of chemical addition and filter backwash recycle.

(d) For Cryptosporidium samples, the laboratory that analyzed the samples shall provide a letter certifying that the quality control criteria specified in the methods listed

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in subdivision B 8 of this section were met for each sample batch associated with the reported results. Alternatively, the laboratory may provide bench sheets and sample examination report forms for each field, matrix spike, initial precision and recovery (IPR), ongoing precision and recovery (OPR), and method blank sample associated with the reported results.

g. If the department determines that a previously collected data set submitted for grandparenting was generated during source water conditions that were not normal for the waterworks, such as a drought, the department may disapprove the data. Alternatively, the department may approve the previously collected data if the owner reports additional source water monitoring data, as determined by the department, to ensure that the data set used under subdivision D 1 of this section represents average source water conditions for the waterworks.

h. If the owner submits previously collected data that fully meets the number of samples required for initial source water monitoring under subdivision B 1 of this section and some of the data are rejected due to not meeting the requirements of this section, then the owner shall conduct additional monitoring to replace rejected data on a schedule approved by the department. The owner is not required to begin this additional monitoring until two months after notification that data have been rejected and additional monitoring is necessary.

C. The owner of a waterworks that plans to make a significant change to the disinfection practice shall develop disinfection profiles and calculate disinfection benchmarks as described in 12VAC5-590-500.

1. The owner shall notify the department before changing the disinfection practice and shall include in this notice the following information:

- a. A completed disinfection profile and disinfection benchmark for Giardia lamblia and viruses;
- b. A description of the proposed change in disinfection practice; and
- c. An analysis of how the proposed change will affect the current level of disinfection.

2. Significant changes to the disinfection practice are defined as follows:

- a. Changes to the point of disinfection;
- b. Changes to any disinfectant used in the water treatment plant;
- c. Changes to the disinfection process; or
- d. Any other modification identified by the department as a significant change to disinfection practice.

D. The owner shall determine the Cryptosporidium treatment bin classification as described in subdivision D 1 of this section and provide additional treatment for Cryptosporidium, if

required, as described in subdivision D 2 of this section. The owner shall implement Cryptosporidium treatment according to the schedule in subdivision D 3 of this section.

1. Bin classification for waterworks.

a. Following completion of the initial round of source water monitoring required under subdivision B 1 of this section, the owner shall calculate an initial Cryptosporidium bin concentration for each water treatment plant for which monitoring was required. Calculation of the bin concentration shall use the Cryptosporidium results reported under subdivision B 1 of this section and shall follow these procedures:

(1) For the owner who collects a total of at least 48 samples, the bin concentration is equal to the arithmetic mean of all sample concentrations.

(2) For the owner who collects a total of at least 24 samples, but not more than 47 samples, the bin concentration is equal to the highest arithmetic mean of all sample concentrations in any 12 consecutive months during which Cryptosporidium samples were collected.

(3) For the owner of a waterworks that serves fewer than 10,000 people and monitors for Cryptosporidium for only one year (i.e., collect 24 samples in 12 months), the bin concentration is equal to the arithmetic mean of all sample concentrations.

(4) For water treatment plants that operate only part of the year and that monitor fewer than 12 months per year under subdivision B 1 of this section, the bin concentration is equal to the highest arithmetic mean of all sample concentrations during any year of Cryptosporidium monitoring.

(5) If the monthly Cryptosporidium sampling frequency varies, then the owner shall first calculate a monthly average for each month of monitoring. The owner shall then use these monthly average concentrations, rather than individual sample concentrations, in the applicable calculation for bin classification in subdivisions D 1 a (1) through D 1 a (4) of this section.

b. The owner shall determine the initial bin classification from Table 401.2 using the Cryptosporidium bin concentration calculated under subdivision D 1 a of this section:

c. Following completion of the second round of source water monitoring required under subdivision B 2 of this section, the owner shall recalculate the Cryptosporidium bin concentration using the Cryptosporidium results reported under subdivision B 2 of this section and following the procedures in subdivisions D 1 a (1) through D 1 a (4) of this section. The owner shall then redetermine the bin classification using this bin concentration and Table 401.3.

d. Reporting of bin classifications.

(1) The owner shall report the initial bin classification under subdivision D 1 b of this section to the department for approval no later than six months after the waterworks is required to complete the initial source water monitoring based on the schedule in subdivision B 3 of this section.

(2) The owner shall report the bin classification under subdivision D 1 c of this section to the department for approval no later than six months after the owner is required to complete the second round of source water monitoring based on the schedule in subdivision D 1 a (3) of this section.

(3) The bin classification report to the department shall include a summary of source water monitoring data and the calculation procedure used to determine bin classification.

e. Failure to comply with the conditions of subdivision D 1 d of this section is a violation of the treatment technique requirement.

2. Waterworks additional Cryptosporidium treatment requirements.

a. A waterworks shall provide the level of additional treatment for Cryptosporidium specified in this subdivision based on the bin classification as determined under subdivision D 1 of this section and according to the schedule in subdivision D 3 b of this section.

b. Additional treatment.

(1) The owner shall use one or more of the treatment and management options listed in subsection E of this section, termed the microbial toolbox, to comply with the additional Cryptosporidium treatment required in subdivision D 2 a of this section.

(2) A waterworks classified in Bin 3 and Bin 4 shall achieve at least 1-log of the additional Cryptosporidium treatment required under subdivision D 2 a of this section using either one or a combination of the following: (i) bag filters, (ii) bank filtration, (iii) cartridge filters, (iv) chlorine dioxide, (v) membranes, (vi) ozone, or (vii) UV as described in subdivisions E 3 through E 7 of this section.

c. Failure by a waterworks in any month to achieve treatment credit by meeting criteria in subdivisions E 3 through E 7 of this section for microbial toolbox options that is at least equal to the level of treatment required in subdivision D 2 a of this section is a violation of the treatment technique requirement.

d. If the department determines during a sanitary survey or an equivalent source water assessment that after an owner completed the monitoring conducted under subdivision B 1 or B 2 of this section, significant changes occurred in the waterworks watershed that could lead to increased contamination of the source water by Cryptosporidium, then the owner shall take actions specified by the department to address the contamination. These actions

may include additional source water monitoring or implementing microbial toolbox options listed in subdivision E 2 of this section.

3. Schedule for compliance with Cryptosporidium treatment requirements.

a. Following the initial bin classification in accordance with subdivision D 1 b of this section, the owner shall provide the level of treatment for Cryptosporidium required under subdivision D 2 of this section according to the schedule in subdivision D 3 b of this section.

b. If the bin classification for a filtered waterworks changes following the second round of source water monitoring, as determined under subdivision D 1 c of this section, then the owner shall provide the level of treatment for Cryptosporidium required under subdivision D 2 of this section on a schedule approved by the department.

E. The owner of a waterworks required to provide additional treatment for Cryptosporidium shall implement microbial toolbox options that are designed and operated as described in subdivisions E 1 through E 7 of this section.

1. The owner receives the treatment credits listed in Table 401.4 by meeting the conditions for microbial toolbox options described in subdivisions E 3 through E 7 of this section. The owner shall apply these treatment credits to meet the treatment requirements in subdivision D 2 of this section.

2. Microbial Toolbox Summary Table: Options, Treatment Credits and Criteria.

3. Source toolbox components.

a. Reserved.

b. Alternative source.

(1) The owner may conduct source water monitoring that reflects a different intake location (either in the same source or for an alternate source) or a different procedure for the timing or level of withdrawal from the source (alternative source water monitoring). If the department approves, then the owner may determine the bin classification under subdivision D 1 of this section based on the alternative source water monitoring results.

(2) If the owner conducts alternative source water monitoring under subdivision E 3 b (1) of this section, then the owner shall also monitor the current water treatment plant intake concurrently as described in subsection B of this section. "Plant intake" means the works or structures at the head of a conduit through which source water is diverted (e.g., river or lake) into the water treatment plant.

(3) Alternative source water monitoring under subdivision E 3 b (1) of this section shall meet the requirements for source water monitoring to determine bin classification, as described in subdivisions B 1 through B 13 of this section. The owner shall report the alternative source water

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monitoring results to the department, along with supporting information documenting the operating conditions under which the samples were collected.

(4) If the owner determines the bin classification under subdivision D 1 of this section using alternative source water monitoring results that reflect a different intake location or a different procedure for managing the timing or level of withdrawal from the source, then the owner shall relocate the intake or permanently adopt the withdrawal procedure, as applicable, no later than the applicable treatment compliance date in subdivision D 3 of this section.

4. Prefiltration treatment toolbox components.

a. Presedimentation. The owner receives 0.5-log Cryptosporidium treatment credit for a presedimentation basin during any month the process meets the following criteria:

(1) The presedimentation basin shall be in continuous operation and shall treat the entire water treatment plant flow at a waterworks using a surface water source, a GUDI source, or both.

(2) A coagulant shall be continuously added to the presedimentation basin.

(3) The presedimentation basin shall achieve the performance criteria in either of the following:

(a) Demonstrates at least 0.5-log mean reduction of influent turbidity. This reduction shall be determined using daily turbidity measurements in the presedimentation process influent and effluent and shall be calculated as follows: \log_{10} (monthly mean of daily influent turbidity) - \log_{10} (monthly mean of daily effluent turbidity).

(b) Complies with the performance criteria approved by the department that demonstrate at least 0.5-log mean removal of micron-sized particulate material through the presedimentation process.

b. Two-stage lime softening. The owner receives an additional 0.5-log Cryptosporidium treatment credit for a two-stage lime softening plant if chemical addition and hardness precipitation occur in two separate and sequential softening stages before filtration. Both softening stages shall treat the entire plant flow taken from a surface water source, a GUDI source, or both.

c. Bank filtration. The owner receives Cryptosporidium treatment credit for bank filtration that serves as pretreatment to a water filtration plant by meeting the criteria in this subdivision. The owner using bank filtration upon beginning source water monitoring under subdivision B 1 of this section shall collect samples as described in subdivision B 6 d of this section and is not eligible for this credit.

(1) Wells with a groundwater flow path of at least 25 feet receive 0.5-log treatment credit; and wells with a groundwater flow path of at least 50 feet receive 1.0-log treatment credit. The groundwater flow path shall be determined as specified in subdivision E 4 c (4) of this section.

(2) Only wells in granular aquifers are eligible for treatment credit. Granular aquifers are those comprised of sand, clay, silt, rock fragments, pebbles or larger particles, and minor cement. The owner shall characterize the aquifer at the well site to determine aquifer properties. The owner shall extract a core from the aquifer and demonstrate that in at least 90% of the core length, grains less than 1.0 mm in diameter constitute at least 10% of the core material.

(3) Only horizontal and vertical wells are eligible for treatment credit.

(4) For vertical wells, the groundwater flow path is the measured distance from the edge of the surface water body under high flow conditions (determined by the 100-year flood elevation boundary or by the floodway, as defined in Federal Emergency Management Agency flood hazard maps) to the well screen. For horizontal wells, the groundwater flow path is the measured distance from the bed of the river under normal flow conditions to the closest horizontal well lateral screen.

(5) The owner shall monitor each wellhead for turbidity at least once every four hours while the bank filtration process is in operation. If monthly average turbidity levels, based on daily maximum values in the well, exceed 1 NTU, the owner shall report this result to the department and conduct an assessment within 30 days to determine the cause of the high turbidity levels in the well. If the department determines that microbial removal has been compromised, the department may revoke treatment credit until the owner implements corrective actions approved by the department to remediate the problem.

(6) Springs and infiltration galleries are not eligible for treatment credit under this section.

(7) Bank filtration demonstration of performance. The department may approve Cryptosporidium treatment credit for bank filtration based on a demonstration-of-performance study that meets the criteria in this subdivision. This treatment credit may be greater than 1.0-log and may be awarded to bank filtration that does not meet the criteria in subdivisions E 4 c (1) through E 4 c (5) of this section.

(a) The study shall follow a protocol approved by the department and shall involve the collection of data on the removal of Cryptosporidium or a surrogate for Cryptosporidium and related hydrogeologic and water quality parameters during the full range of operating conditions.

(b) The study shall include sampling both from any production well and from monitoring wells that are screened and located along the shortest flow path between the surface water source and the production well.

5. Treatment performance toolbox components.

a. Combined filter performance. The owner using conventional filtration treatment or direct filtration treatment receives an additional 0.5-log Cryptosporidium treatment credit during any month the waterworks meets the criteria in this subdivision. Combined filter effluent (CFE) turbidity shall be less than or equal to 0.15 NTU in at least 95% of the measurements. Turbidity shall be measured as described in 12VAC5-590-376 B.

b. Individual filter performance. The owner using conventional filtration treatment or direct filtration treatment receives 0.5-log Cryptosporidium treatment credit, which can be in addition to the 0.5-log credit under subdivision E 5 a of this section, during any month the waterworks meets the criteria in this subdivision. Compliance with these criteria shall be based on individual filter turbidity monitoring as described in 12VAC5-590-376 B.

(1) The filtered water turbidity for each individual filter shall be less than or equal to 0.15 NTU in at least 95% of the measurements recorded each month.

(2) No individual filter may have a measured turbidity greater than 0.3 NTU in two consecutive measurements collected 15 minutes apart.

(3) The owner that has received treatment credit for individual filter performance and fails to meet the requirements of subdivision E 5 b (1) or E 5 b (2) of this section during any month does not receive a treatment technique violation under subdivision D 2 c of this section if the department determines the following:

(a) The failure was due to unusual and short-term circumstances that could not reasonably be prevented through optimizing water treatment plant design, operation, and maintenance.

(b) The waterworks has experienced no more than two failures in any calendar year.

6. Additional filtration toolbox components.

a. Bag and cartridge filters. The owner receives Cryptosporidium treatment credit of up to 2.0-log for individual bag or cartridge filters and up to 2.5-log for bag or cartridge filters operated in series by meeting the criteria in subdivisions E 6 a (1) through E 6 a (10) of this section. To be eligible for this credit, the owner shall report the results of challenge testing that meets the requirements of subdivisions E 6 a (2) through E 6 a (9) of this section to the department. The filters shall treat the entire water treatment plant flow taken from a surface water source, a GUDI source, or both.

(1) The Cryptosporidium treatment credit awarded to bag or cartridge filters shall be based on the removal efficiency demonstrated during challenge testing that is conducted according to the criteria in subdivisions E 6 a (2) through E 6 a (9) of this section. A factor of safety equal to 1-log for individual bag or cartridge filters and 0.5-log for bag or cartridge filters in series shall be applied to challenge testing results to determine removal credit. The owner may use the results from challenge testing conducted before January 5, 2006, if the prior testing was consistent with the criteria specified in subdivisions E 6 a (2) through E 6 a (9) of this section.

(2) Challenge testing shall be performed on full-scale bag or cartridge filters, and the associated filter housing or pressure vessel, that are identical in material and construction to the filters and housings the waterworks will use for removal of Cryptosporidium. Bag or cartridge filters shall be challenge tested in the same configuration that the waterworks will use, either as individual filters or as a series configuration of filters.

(3) Challenge testing shall be conducted using Cryptosporidium or a surrogate that is removed no more efficiently than Cryptosporidium. The microorganism or surrogate used during challenge testing is referred to as the challenge particulate. The concentration of the challenge particulate shall be determined using a method capable of discreetly quantifying the specific microorganism or surrogate used in the test; gross measurements such as turbidity shall not be used.

(4) The maximum feed water concentration that can be used during a challenge test shall be based on the detection limit of the challenge particulate in the filtrate (i.e., filtrate detection limit) and shall be calculated using the following equation:

$$\text{Maximum Feed Concentration} = 1 \times 10^4 \times (\text{Filtrate Detection Limit})$$

(5) Challenge testing shall be conducted at the maximum design flow rate for the filter as specified by the manufacturer.

(6) Each filter evaluated shall be tested for a duration sufficient to reach 100% of the terminal pressure drop that establishes the maximum pressure drop under which the filter may be used to comply with the requirements of this subdivision E 6.

(7) Removal efficiency of a filter shall be determined from the results of the challenge test and expressed in terms of log removal values using the following equation:

$$\text{LRV} = \text{LOG}_{10}(C_f) - \text{LOG}_{10}(C_p),$$

where LRV = log removal value demonstrated during challenge testing;

C_f = the feed concentration measured during the challenge test; and

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C_p = the filtrate concentration measured during the challenge test.

In applying this equation, the same units shall be used for the feed and filtrate concentrations. If the challenge particulate is not detected in the filtrate, then the term C_p shall be set equal to the detection limit.

(8) Each filter tested shall be challenged with the challenge particulate during three periods over the filtration cycle: within two hours of start-up of a new filter; when the pressure drop is between 45% and 55% of the terminal pressure drop; and at the end of the cycle after the pressure drop has reached 100% of the terminal pressure drop. An LRV shall be calculated for each of these challenge periods for each filter tested. The LRV for the filter (LRV filter) shall be assigned the value of the minimum LRV observed during the three challenge periods for that filter.

(9) If fewer than 20 filters are tested, then the overall removal efficiency for the filter product line shall be set equal to the lowest LRV filter among the filters tested. If 20 or more filters are tested, then the overall removal efficiency for the filter product line shall be set equal to the 10th percentile of the set of LRV filter values for the various filters tested. The percentile is defined by $(i/(n+1))$, where i is the rank of n individual data points ordered lowest to highest. If necessary, the 10th percentile may be calculated using linear interpolation.

(10) If a previously tested filter is modified in a manner that could change the removal efficiency of the filter product line, then challenge testing to demonstrate the removal efficiency of the modified filter shall be conducted and submitted to the department.

b. Membrane filtration.

(1) The owner receives Cryptosporidium treatment credit for membrane filtration that meets the criteria of this subdivision E 6 b. Membrane cartridge filters that meet the definition of membrane filtration in 12VAC5-590-10 are eligible for this credit. The level of treatment credit the owner receives is equal to the lower of the values determined as follows:

(a) The removal efficiency demonstrated during challenge testing conducted under the conditions in subdivision E 6 b (2) of this section.

(b) The maximum removal efficiency that can be verified through direct integrity testing used with the membrane filtration process under the conditions in subdivision E 6 b (3) of this section.

(2) Challenge Testing. The membrane used by the waterworks shall undergo challenge testing to evaluate removal efficiency and the owner shall report the results of the challenge testing to the department. Challenge testing shall be conducted according to the criteria in subdivisions E 6 b (2) (a) through E 6 b (2) (g) of this

section. The owner may use data from challenge testing conducted before January 5, 2006, if the prior testing was consistent with the following criteria:

(a) Challenge testing shall be conducted on either a full-scale membrane module, identical in material and construction to the membrane modules used in the waterworks treatment facility, or a smaller-scale membrane module, identical in material and similar in construction to the full-scale module. A module is defined as the smallest component of a membrane unit in which a specific membrane surface area is housed in a device with a filtrate outlet structure.

(b) Challenge testing shall be conducted using Cryptosporidium or a surrogate that is removed no more efficiently than Cryptosporidium. The organism or surrogate used during challenge testing is referred to as the challenge particulate. The concentration of the challenge particulate, in both the feed and filtrate water, shall be determined using a method capable of discretely quantifying the specific challenge particulate used in the test; gross measurements such as turbidity shall not be used.

(c) The maximum feed water concentration that can be used during a challenge test is based on the detection limit of the challenge particulate in the filtrate and shall be determined according to the following equation:

Maximum Feed Concentration = $3.16 \times 10^6 \times (\text{Filtrate Detection Limit})$

(d) Challenge testing shall be conducted under representative hydraulic conditions at the maximum design flux and maximum design process recovery specified by the manufacturer for the membrane module. Flux is defined as the throughput of a pressure-driven membrane process expressed as flow per unit of membrane area. Recovery is defined as the volumetric percent of feed water that is converted to filtrate over the course of an operating cycle uninterrupted by events such as chemical cleaning or a solids removal process (i.e., backwashing).

(e) Removal efficiency of a membrane module shall be calculated from the challenge test results and expressed as a log removal value according to the following equation:

$$\text{LRV} = \text{LOG}_{10}(C_f) - \text{LOG}_{10}(C_p)$$

where LRV = log removal value demonstrated during the challenge test;

C_f = the feed concentration measured during the challenge test; and

C_p = the filtrate concentration measured during the challenge test.

Equivalent units shall be used for the feed and filtrate concentrations. If the challenge particulate is not detected in the filtrate, then the term C_p is set equal to the detection limit for the purpose of calculating the LRV. An LRV

shall be calculated for each membrane module evaluated during the challenge test.

(f) The removal efficiency of a membrane filtration process demonstrated during challenge testing shall be expressed as a log removal value (LRV_{C-Test}). If fewer than 20 modules are tested, then LRV_{C-Test} is equal to the lowest of the representative LRVs among the modules tested. If 20 or more modules are tested, then LRV_{C-Test} is equal to the 10th percentile of the representative LRVs among the modules tested. The percentile is defined by $(i/(n+1))$, where i is the rank of n individual data points ordered lowest to highest. If necessary, the 10th percentile may be calculated using linear interpolation.

(g) The challenge test shall establish a QCRV for a nondestructive performance test that demonstrates the *Cryptosporidium* removal capability of the membrane filtration module. This performance test shall be applied to each production membrane module used by the waterworks that was not directly challenge tested to verify *Cryptosporidium* removal capability. Production modules that do not meet the established QCRV are not eligible for the treatment credit demonstrated during the challenge test.

(h) If a previously tested membrane is modified in a manner that could change the removal efficiency of the membrane or the applicability of the nondestructive performance test and associated QCRV, then additional challenge testing to demonstrate the removal efficiency of, and determine a new QCRV for, the modified membrane shall be conducted and submitted to the department.

(3) Direct integrity testing. The owner shall conduct direct integrity testing in a manner that demonstrates a removal efficiency equal to or greater than the removal credit awarded to the membrane filtration process and meets the requirements described in subdivisions E 6 b (3) (a) through E 6 b (3) (f) of this section. A direct integrity test is defined as a physical test applied to a membrane unit to identify and isolate integrity breaches (i.e., one or more leaks that could result in contamination of the filtrate).

(a) The direct integrity test shall be independently applied to each membrane unit in service. A membrane unit is defined as a group of membrane modules that share common valving that allows the unit to be isolated from the rest of the waterworks for the purpose of integrity testing or other maintenance.

(b) The direct integrity method shall have a resolution of three micrometers or less, where resolution is defined as the size of the smallest integrity breach that contributes to a response from the direct integrity test.

(c) The direct integrity test shall have a sensitivity sufficient to verify the log treatment credit awarded to the membrane filtration process by the department, where sensitivity is defined as the maximum log removal value that can be reliably verified by a direct integrity test.

Sensitivity shall be determined using the approach in either of the following as applicable to the type of direct integrity test the waterworks uses:

(i) For direct integrity tests that use an applied pressure or vacuum, the direct integrity test sensitivity shall be calculated according to the following equation:

$$LRV_{DIT} = \text{LOG}_{10}(Q_p / (\text{VCF} \times Q_{\text{breach}}))$$

where LRV_{DIT} = the sensitivity of the direct integrity test;

Q_p = total design filtrate flow from the membrane unit;

Q_{breach} = flow of water from an integrity breach associated with the smallest integrity test response that can be reliably measured; and

VCF = volumetric concentration factor.

The volumetric concentration factor is the ratio of the suspended solids concentration on the high-pressure side of the membrane relative to that in the feed water.

(ii) For direct integrity tests that use a particulate or molecular marker, the direct integrity test sensitivity shall be calculated according to the following equation:

$$LRV_{DIT} = \text{LOG}_{10}(C_f) - \text{LOG}_{10}(C_p)$$

where LRV_{DIT} = the sensitivity of the direct integrity test;

C_f = the typical feed concentration of the marker used in the test; and

C_p = the filtrate concentration of the marker from an integral membrane unit.

(d) The owner shall establish a control limit within the sensitivity limits of the direct integrity test that is indicative of an integral membrane unit capable of meeting the removal credit awarded by the department.

(e) If the result of a direct integrity test exceeds the control limit established under subdivision E 6 b (3) (d) of this section, then the owner shall remove the membrane unit from service. The owner shall conduct a direct integrity test to verify any repairs, and may return the membrane unit to service only if the direct integrity test is within the established control limit.

(f) The owner shall conduct direct integrity testing on each membrane unit at a frequency of not less than once each day that the membrane unit is in operation. The department may approve less frequent testing based on demonstrated process reliability, the use of multiple barriers effective for *Cryptosporidium*, or reliable process safeguards.

(4) Indirect integrity monitoring. The owner shall conduct continuous indirect integrity monitoring on each membrane unit according to the criteria in subdivisions E 6 b (4) (a) through E 6 b (4) (e). Indirect integrity monitoring is defined as monitoring some aspect of filtrate water quality that is indicative of the removal of particulate matter. The owner that implements continuous direct integrity testing of membrane units in accordance

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with the criteria in subdivisions E 6 b (3) (a) through E 6 b (3) (f) of this section is not subject to the requirements for continuous indirect integrity monitoring. The owner shall submit a monthly report to the department summarizing all continuous indirect integrity monitoring results triggering direct integrity testing and the corrective action that was taken in each case.

(a) Unless the department approves an alternative parameter, continuous indirect integrity monitoring shall include continuous filtrate turbidity monitoring.

(b) Continuous monitoring shall be conducted at a frequency of no less than once every 15 minutes.

(c) Continuous monitoring shall be separately conducted on each membrane unit.

(d) If indirect integrity monitoring includes turbidity and if the filtrate turbidity readings are above 0.15 NTU for a period greater than 15 minutes (i.e., two consecutive 15-minute readings above 0.15 NTU), direct integrity testing shall immediately be performed on the associated membrane unit as specified in subdivisions E 6 b (3) (a) through E 6 b (3) (f) of this section.

(e) If indirect integrity monitoring includes an alternative parameter approved by the department and if the alternative parameter exceeds a control limit approved by the department for a period greater than 15 minutes, then direct integrity testing shall immediately be performed on the associated membrane units as specified in subdivisions E 6 b (3) (a) through E 6 b (3) (f) of this section.

c. Second stage filtration. The owner receives 0.5-log Cryptosporidium treatment credit for a separate second stage of filtration that consists of sand, dual media, GAC, or other fine grain media following granular media filtration if approved by the department. To be eligible for this credit, the first stage of filtration shall be preceded by a coagulation step and both filtration stages shall treat the entire water treatment treatment plant flow taken from a surface water source, a GUDI source, or both. A cap, such as GAC, on a single stage of filtration is not eligible for this credit. The department shall approve the treatment credit based on an assessment of the design characteristics of the filtration process.

d. Slow sand filtration as secondary filter. The owner is eligible to receive 2.5-log Cryptosporidium treatment credit for a slow sand filtration process that follows a separate stage of filtration if both filtration stages treat the entire water treatment plant flow taken from a surface water source, a GUDI source, or both and no residual disinfectant is present in the influent water to the slow sand filtration process. The department shall approve the treatment credit based on an assessment of the design characteristics of the filtration process. This subdivision does not apply to treatment credit awarded to slow sand filtration used as a primary filtration process.

7. Inactivation toolbox components.

a. Calculation of CT values.

(1) CT is the product of the disinfectant contact time (T, in minutes) and disinfectant concentration (C, in milligrams per liter). The owner of a waterworks with treatment credit for chlorine dioxide or ozone under subdivision E 7 b of this section shall calculate CT at least once each day, with both C and T measured during peak hourly flow in accordance with the procedure listed in 12VAC5-590-500.

(2) A waterworks with several disinfection segments in sequence may calculate CT for each segment, where a disinfection segment is defined as a treatment unit process with a measurable residual disinfectant level and a liquid volume. Under this approach, the owner shall add the Cryptosporidium CT values in each segment to determine the total CT for the treatment plant.

b. CT values for chlorine dioxide and ozone.

(1) The owner receives the Cryptosporidium treatment credit listed in Table 401.5 by meeting the corresponding chlorine dioxide CT value for the applicable water temperature, as described in subdivision E 7 a of this section.

(2) The owner receives the Cryptosporidium treatment credit listed in Table 401.6 by meeting the corresponding ozone CT values for the applicable water temperature, as described in subdivision E 7 a of this section.

c. UV light. The owner receives Cryptosporidium, Giardia lamblia, and virus treatment credits for UV light reactors by achieving the corresponding UV dose values shown in subdivision E 7 c (1) of this section. The owner shall validate and monitor UV reactors as described in subdivisions E 7 c (2) and E 7 c (3) of this section to demonstrate that they are achieving a particular UV dose value for treatment credit.

(1) UV dose table. The treatment credits listed in Table 401.7 are for UV light at a wavelength of 254 nm as produced by a low-pressure mercury vapor lamp. To receive treatment credit for other lamp types, the owner shall demonstrate an equivalent germicidal dose through reactor validation testing as described in subdivision E 7 c (2) of this section. The UV dose values listed in Table 401.7 are applicable only to post-filter applications of UV in filtered waterworks.

(2) Reactor validation testing. The owner shall use UV reactors that have undergone validation testing to determine the operating conditions under which the reactor delivers the UV dose required in subdivision E 7 c (1) of this section (i.e., validated operating conditions). These operating conditions shall include flow rate, UV intensity as measured by a UV sensor, and UV lamp status.

(a) When determining validated operating conditions, the owner shall account for the following factors: (i) UV

absorbance of the water; (ii) lamp fouling and aging; (iii) measurement uncertainty of online sensors; (iv) UV dose distributions arising from the velocity profiles through the reactor; (v) failure of UV lamps or other critical waterworks components; and (vi) inlet and outlet piping or channel configurations of the UV reactor.

(b) Validation testing shall include the following: full-scale testing of a reactor that conforms uniformly to the UV reactors used by the waterworks and inactivation of a test microorganism whose dose-response characteristics have been quantified with a low-pressure mercury vapor lamp.

(c) UV reactor validation testing shall be in accordance with EPA's recommended validation protocol for UV reactors, as described in EPA's "Ultraviolet Disinfection Guidance Manual for the Final Long Term 2 Enhanced Surface Water Treatment Rule," November 2006, EPA Office of Water. Alternative protocols may be considered for approval by the department on a case-by-case basis.

(d) Validation testing, whether onsite or offsite, shall be performed by a third party independent of the UV reactor manufacturer and the owner to ensure that validation testing and data analysis are conducted in a technically sound manner without bias.

(e) To receive credit for lamp types other than low-pressure types, the owner shall demonstrate an equivalent germicidal dose through reactor validation testing.

(f) A validation report shall be submitted and approved by the department to receive disinfection credit.

(3) UV reactor monitoring.

(a) The owner shall monitor the UV reactors to determine if the reactors are operating within validated conditions as determined under subdivision E 7 c (2) of this section. This monitoring shall include UV intensity as measured by a UV sensor, flow rate, lamp status, and other parameters the department designates based on UV reactor operation. The owner shall verify the calibration of UV sensors and shall recalibrate sensors in accordance with a protocol approved by the department.

(b) To receive treatment credit for UV light, the owner shall treat at least 95% of the water delivered to the public during each month by the UV reactors operating within validated conditions for the required UV dose as described in subdivisions E 7 c (1) and E 7 c (2) of this section. The owner shall demonstrate compliance with this condition by the monitoring required under subdivision E 7 c (3) (a) of this section.

F. The owner shall comply with the applicable recordkeeping and reporting requirements described in 12VAC5-590-530, 12VAC5-590-531, 12VAC5-590-550, and 12VAC5-590-570.

12VAC5-590-405. Lead and copper treatment techniques.

A. Lead and copper corrosion control techniques.

1. Corrosion control treatment requirements. The ~~owners~~ ~~owner of all a community and nontransient noncommunity waterworks~~ waterworks or a NTNC shall install and operate optimum corrosion control treatment by completing the corrosion control treatment requirements described below which are applicable to ~~such owners~~ these waterworks under subdivision A 2 of this section.

a. Owner's proposal regarding corrosion control treatment. Based upon the results of lead and copper tap monitoring and water quality parameter monitoring, the ~~owners~~ owner of a small ~~and~~ or a medium waterworks exceeding the lead or copper ~~action level AL~~ shall propose installation of one or more of the corrosion control treatments listed in subdivision A 1 c (1) of this section that the owner believes constitutes optimal corrosion control for that waterworks. The ~~commissioner~~ department may require the owner to conduct additional water quality parameter monitoring in accordance with 12VAC5-590-375 C 2 to assist the ~~commissioner~~ department in ~~reviewing~~ evaluating the proposal.

b. Applicability of studies of corrosion control treatment (applicable to small and medium waterworks). The ~~commissioner~~ department may require the owner of ~~any a~~ a small or a medium waterworks that exceeds the lead or copper ~~action level AL~~ to perform corrosion control studies under subdivision A 1 c of this section to identify optimal corrosion control treatment for the waterworks.

c. Corrosion control studies.

(1) The owner of ~~any a~~ a waterworks required by the ~~commissioner~~ department to perform corrosion control studies shall evaluate the effectiveness of each of the following treatments, and, if appropriate, combinations of the following treatments to identify the optimal corrosion control treatment for that waterworks:

(a) Alkalinity and pH adjustment;

(b) Calcium hardness adjustment; and

(c) The addition of a ~~phosphate~~ phosphate-based or silicate based silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective corrosion inhibitor residual concentration in all test tap samples, such that a passivating film is formed on the interior walls of the pipe.

(2) The owner shall evaluate each of the corrosion control treatments using either pipe ~~rig/loop~~ rig or loop tests, metal coupon tests, partial-system tests, or analyses based on documented analogous treatments with other waterworks of similar size, water chemistry, and distribution system configuration.

(3) The owner shall measure the following water quality parameters in any tests conducted under subdivision A 1 c of this section before and after evaluating the corrosion control treatments listed ~~above~~ in subdivision A 1 c (1) of this section:

(a) Lead;

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- (b) Copper;
- (c) pH;
- (d) Alkalinity;
- (e) Calcium;
- (f) Conductivity;
- (g) Orthophosphate (when an inhibitor containing a phosphate compound is used);
- (h) Silicate (when an inhibitor containing a silicate compound is used); and
- (i) Water temperature.

(4) The owner shall identify all chemical or physical constraints that limit or prohibit the use of a particular corrosion control treatment and document such constraints with at least one of the following:

(a) Data and documentation showing that a particular corrosion control treatment has adversely affected other water treatment processes when used by another waterworks with comparable water quality characteristics; or

(b) Data and documentation demonstrating that the owner has previously attempted to evaluate a particular corrosion control treatment and has found that the treatment is ineffective or adversely affects other water quality treatment processes.

(5) The owner shall evaluate the effect of the chemicals used for corrosion control treatment on other water quality treatment processes.

(6) On the basis of an analysis of the data generated during each evaluation, the owner shall propose in writing to the ~~district engineer in writing,~~ department that the treatment option ~~that~~ resulting from the corrosion control studies ~~indicate~~ constitutes optimal corrosion control treatment for that waterworks. The owner shall provide a rationale for ~~its~~ the recommendation along with all supporting documentation specified in subdivisions A 1 c (1) through A 1 c (5) of this section.

d. Approval of optimal corrosion control treatment.

(1) Based upon consideration of available information including, where applicable, studies performed under subdivision A 1 c of this section and ~~as~~ the owner's proposed treatment alternative, the ~~commissioner~~ department shall either approve the corrosion control treatment option recommended by the owner, or designate alternative corrosion control treatment ~~or treatments~~ from among those listed in subdivision A 1 c (1) of this section. When approving optimal treatment, the ~~commissioner~~ department shall consider the effects that additional corrosion control treatment will have on water quality parameters and on other water quality treatment processes.

(2) The ~~commissioner~~ department shall notify the owner of ~~his~~ the determination on optimal corrosion control treatment in writing and explain the basis for this

determination. If the ~~commissioner~~ department requests additional information to aid a ~~review~~ an evaluation, then the owner shall provide the information.

e. Installation of optimal corrosion control. ~~Each~~ The owner shall properly install and operate throughout the waterworks the optimal corrosion control treatment approved by the ~~commissioner~~ department under subdivision A 1 d of this section. ~~Also see 12VAC5-590-190~~ A construction permit is required before installation of any treatment in accordance with 12VAC5-590-200.

f. ~~Commissioner's review~~ The department's evaluation of treatment and specification of the optimal water quality control parameters- shall consist of the following:

(1) The ~~commissioner~~ department shall evaluate the results of all lead and copper tap samples and water quality parameter samples submitted by the owner and determine whether the owner has properly installed and operated the optimal corrosion control treatment approved by the ~~commissioner~~ department under subdivision A 1 d of this section. Upon ~~reviewing~~ evaluating the results of tap water and water quality parameter monitoring by the owner, both before and after the owner installs optimal corrosion control treatment, the ~~commissioner~~ department shall designate:

(a) A minimum value or a range of values for pH measured at each entry point to the distribution system;

(b) A minimum pH value, measured in all tap samples. ~~Such~~ The value shall be equal to or greater than 7.0, unless the ~~commissioner~~ department determines that meeting a pH level of 7.0 is not technologically feasible or is not necessary for the owner to optimize corrosion control;

(c) If a corrosion inhibitor is used, then a minimum concentration or a range of concentrations for the inhibitor, measured at each entry point to the distribution system and in all tap samples, that the ~~commissioner~~ department determines is necessary to form a passivating film on the interior walls of the pipes of the distribution system;

(d) If alkalinity is adjusted as part of the optimal corrosion control treatment, then a minimum concentration or a range of concentrations for alkalinity, measured at each entry point to the distribution system and in all tap samples; or

(e) If calcium carbonate stabilization is used as part of the corrosion control, then a minimum concentration or a range of concentrations for calcium, measured in all tap samples.

(2) The values for the applicable water quality control parameters listed ~~above~~ in subdivision A 1 c (3) of this section shall be those that the ~~commissioner~~ department determines to reflect optimal corrosion control treatment for the waterworks. The ~~commissioner~~ department may designate values for additional water quality control

parameters determined by the ~~commissioner~~ department to reflect optimal corrosion control for the waterworks. The ~~commissioner~~ department shall notify the owner in writing of these determinations and explain the basis for ~~his~~ the decisions.

g. Continued operation and monitoring. The ~~owners~~ owner of ~~all~~ a waterworks optimizing corrosion control shall continue to operate and maintain optimal corrosion control treatment, including maintaining water quality parameters at or above minimum values or within ranges designated by the ~~commissioner~~ department under subdivision A 1 f of this section as verified by all samples collected under 12VAC5-590-375 C 4 ~~through, 12VAC5-590-375 C 5, and 12VAC5-590-375 C 6.~~ Compliance with the requirements of this subdivision shall be determined every six months, as specified under 12VAC5-590-375 C 4. The ~~owner of a~~ waterworks is out of compliance with the requirements of this subdivision for a six-month period if excursions occur for any ~~commissioner-specified~~ department-specified parameter on more than nine days during the period. An excursion occurs whenever the daily value for one or more of the water quality parameters measured at a sampling location is below the minimum value or outside the range designated by the ~~commissioner~~ department. ~~Daily values shall be calculated as follows.~~ The ~~commissioner~~ department has discretion to delete results of obvious sampling errors from this calculation. Daily values shall be calculated as follows:

(1) On days when more than one measurement for the water quality parameter is collected at the sampling location, the daily value shall be the average of all results collected during the day regardless of whether they are collected through continuous monitoring, grab sampling, or a combination of both.

(2) On days when only one measurement for the water quality parameter is collected at the sampling location, the daily value shall be the result of that measurement.

(3) On days when no measurement is collected for the water quality parameter at the sampling location, the daily value shall be the daily value calculated on the most recent day on which the water quality parameter was measured at the sample site.

h. Modification of the ~~commissioner's~~ department's treatment decisions. Upon ~~his own~~ the department's initiative or in response to a request by an owner or other interested party, the ~~commissioner~~ department may modify ~~his~~ the determination of the optimal corrosion control treatment under subdivision A 1 d of this section or optimal water quality control parameters under subdivision A 1 f of this section. A request for modification by an owner or other interested party shall be in writing, explain why the modification is appropriate, and provide supporting documentation. The ~~commissioner~~ department may modify the determination where it is

concluded that ~~such~~ the change is necessary to ensure that the waterworks continues to optimize corrosion control treatment. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the ~~commissioner's~~ department's decision, and provide an implementation schedule for completing the treatment modifications.

2. Corrosion control treatment steps.

a. ~~Owners~~ The owner shall complete the applicable corrosion control treatment requirements described in subdivision A 1 of this section by the deadlines established in this subdivision.

(1) The owner of a large waterworks (serving \geq greater than 50,000 persons) shall complete the corrosion control treatment steps specified in subdivision A 2 d of this section, unless the owner is deemed to have optimized corrosion control under subdivision A 2 b (2) or ~~subdivision~~ A 2 b (3) of this section.

(2) The owner of a small waterworks (serving \leq fewer than or equal to 3300 persons) ~~and~~ or a medium waterworks (serving \geq greater than 3,300 and \leq fewer than or equal to 50,000 persons) shall complete the corrosion control treatment steps specified in subdivision A 2 e of this section, unless the owner is deemed to have optimized corrosion control under subdivisions A 2 b (1) through A 2 b (3) of this section.

b. ~~An~~ The owner is deemed to have optimized corrosion control and is not required to complete the applicable corrosion control treatment steps identified in this subdivision if the waterworks satisfies one of the criteria specified in subdivisions A 2 b (1) through A 2 b (3) of this section. ~~Any such~~ The owner deemed to have optimized corrosion control under this subdivision, ~~and which has to have~~ to have treatment in place, shall continue to operate and maintain optimal corrosion control treatment and meet any requirements that the ~~commissioner~~ department determines appropriate to ensure optimal corrosion control treatment is maintained.

(1) The owner of a small or a medium waterworks is deemed to have optimized corrosion control if the waterworks meets the lead and copper ~~action levels~~ ALs during each of two consecutive six-month monitoring periods conducted in accordance with 12VAC5-590-375.

(2) ~~Any~~ The owner may be deemed by the ~~commissioner~~ department to have optimized corrosion control treatment if the owner demonstrates to the satisfaction of the ~~commissioner~~ department that the owner has conducted activities equivalent to the corrosion control steps applicable to ~~such~~ the waterworks under this section. If the ~~commissioner~~ department makes this determination, ~~then~~ the owner shall be provided with a written notice explaining the basis for the decision and the notice shall specify the water quality control parameters representing

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optimal corrosion control in accordance with subdivision A 1 f of this section. ~~Waterworks owners~~ The owner deemed to have optimized corrosion control under this subdivision shall operate in compliance with the ~~commissioner-designated~~ department designated optimal water quality control parameters in accordance with subdivision A 1 g and continue to conduct lead and copper tap and water quality parameter sampling in accordance with 12VAC5-590-375 B 4 c and 12VAC5-590-375 C 4, respectively. The owner shall provide the ~~commissioner~~ department with the following information in order to support a determination under this subdivision:

(a) The results of all test samples collected for each of the water quality parameters in subdivision A 1 c (3) of this section;

(b) A report explaining the test methods used by the owner to evaluate the corrosion control treatments listed in subdivision A 1 c (1) of this section, the results of all tests conducted, and the basis for the owner's selection of optimal corrosion control treatment;

(c) A report explaining how corrosion control has been installed and how it is being maintained to insure minimal lead and copper concentrations at consumers' taps; and

(d) The results of tap water samples collected in accordance with 12VAC5-590-375 B at least once every six months for one year after corrosion control treatment has been installed.

(3) ~~Any~~ A waterworks is deemed to have optimized corrosion control if the owner submits results of tap water monitoring conducted in accordance with 12VAC5-590-375 B and source water monitoring conducted in accordance with 12VAC5-590-375 D that demonstrates for two consecutive six-month monitoring periods that the difference between the 90th percentile tap water lead level, computed under 12VAC5-590-385 C, and the highest source water lead concentration is less than the PQL for lead (0.005 mg/L).

(a) ~~Any~~ The owner that submits monitoring results indicating that the highest source water lead level is below the ~~method detection limit~~ MDL may also be deemed to have optimized corrosion control under this subdivision if the 90th percentile tap water lead level is less than or equal to the PQL for lead (0.005 mg/L) for two consecutive six-month monitoring periods.

(b) ~~Any~~ The owner deemed to have optimized corrosion control under this subdivision shall continue monitoring for lead and copper at the tap no less frequently than once every three calendar years using the reduced number of sites specified in 12VAC5-590-375 B 3 and collecting the samples at times and locations specified in 12VAC5-590-375 B 4 d (4).

(c) ~~Any~~ The owner deemed to have optimized corrosion control pursuant to this subdivision shall notify the ~~district~~

~~engineer~~ department in writing pursuant to ~~12VAC5-590-530 F 1 e~~ 12VAC5-590-532 B 3 of any upcoming long-term change in treatment or addition of a new ~~water~~ source water as described in ~~that subdivision~~ 12VAC5-590-532 B 3. The ~~commissioner must review~~ department shall evaluate and approve the addition of a new ~~source~~ source water or long-term change in water treatment before it is implemented by the owner. The ~~commissioner~~ department may require the owner of ~~any such~~ a waterworks to conduct additional monitoring or to take other actions the ~~commissioner~~ department deems appropriate to ensure that minimum levels of corrosion control are being maintained in the distribution system.

(d) ~~An~~ The owner is not deemed to have optimized corrosion control under this subdivision, and shall implement corrosion control treatment specified in subdivision A 2 b (3) (e) of this section, unless the copper ~~action level~~ AL is met.

(e) The owner of a waterworks triggered into corrosion control because the waterworks ~~no longer is~~ no longer deemed to have optimized corrosion control under this subsection shall implement corrosion control treatment in accordance with the deadlines in subdivision A 2 e of this section. The owner of ~~any such~~ a large waterworks shall adhere to the schedule specified in subdivision A 2 e of this section for ~~medium-size systems~~ a medium waterworks, with the time period for completing each step being triggered by the date the owner is no longer deemed to have optimized corrosion control treatment under this subsection.

c. The owner of ~~any~~ a small or a medium waterworks that is required to complete the corrosion control steps due to the exceedance of the lead or copper ~~action level~~ AL may cease completing the treatment steps whenever the waterworks meets both ~~action levels~~ ALs during each of two consecutive ~~six-month~~ monitoring periods conducted pursuant to 12VAC5-590-375 B 4 a and submits the results to the ~~district engineer~~ department. If ~~any such~~ a waterworks thereafter exceeds the lead or copper ~~action level~~ AL during any monitoring period, the owner shall recommence completion of the applicable treatment steps, beginning with the first treatment step ~~which that~~ which was not previously completed in its entirety. The ~~commissioner~~ department may require the owner to repeat treatment steps previously completed where the ~~commissioner~~ department determines that this is necessary to properly implement the treatment requirements of this section. The ~~commissioner~~ department shall notify the owner in writing of ~~such a~~ the determination and explain the basis for ~~his~~ the decision. The requirement for the owner of ~~any~~ a small or a medium waterworks to implement corrosion control treatment steps in accordance with subdivision A 2 e of this section (including waterworks deemed to have optimized corrosion control under subdivision A 2 b (1) of this section) is triggered whenever ~~any~~ a small or a

medium waterworks exceeds the lead or copper ~~action level~~ AL.

d. Treatment steps and deadlines for large waterworks. Except as provided in subdivisions A 2 b (2) and A 2 b (3) of this section, ~~owners~~ the owner of a large waterworks shall complete the following corrosion control treatment steps (described in the referenced portions of subdivision A 1 of this section, 12VAC5-590-375 B₁ and 12VAC5-590-375 C).

(1) Step 1: The owner shall conduct initial monitoring (12VAC5-590-375 B 4 a and 12VAC5-590-375 C 2) during two consecutive six-month monitoring periods by a date specified by the ~~commissioner~~ department.

(2) Step 2: The owner shall complete corrosion control studies (subdivision A 1 c of this section) and submit the study and recommendations to the ~~commissioner~~ department no later than 18 months after the date that initial monitoring is completed as specified in Step 1.

(3) Step 3: The ~~commissioner~~ department shall approve optimal corrosion control treatment (subdivision A 1 ~~d~~ d of this section) no later than 12 months following receipt of the corrosion control study required in Step 2.

(4) Step 4: The owner shall install optimal corrosion control treatment (subdivision A 1 ~~e~~ e of this section) no later than 24 months following the ~~commissioner's~~ department's approval of optimal corrosion control treatment specified in Step 3 (~~See 12VAC5-590-200~~).

(5) Step 5: The owner shall complete follow-up sampling (12VAC5-590-375 B 4 b and 12VAC5-590-375 C 3) no later than 12 months following the installation of optimal corrosion control treatment specified in Step 4.

(6) Step 6: The ~~commissioner~~ department shall ~~review~~ evaluate the installation of treatment and designate optimal water quality control parameters (subdivision A 1 ~~f~~ f of this section) no later than six months following completion of follow-up sampling specified in Step 5.

(7) Step 7: The owner shall operate the waterworks in compliance with the ~~commissioner-specified~~ department-specified optimal water quality control parameters (subdivision A 1 ~~g~~ g of this section) and continue to conduct tap sampling (12VAC5-590-375 B 4 c and 12VAC5-590-375 C 4).

e. Treatment steps and deadlines for small and medium waterworks. Except as provided in subdivision A 2 b of this section, ~~owners~~ the owner of a small ~~and~~ or a medium waterworks shall complete the following corrosion control treatment steps (described in the referenced portions of subdivision A 1 of this section, 12VAC5-590-375 B₂ and 12VAC5-590-375 C):

(1) ~~Step 1~~: The owner shall conduct initial tap sampling (12VAC5-590-375 B 4 a and 12VAC5-590-375 C 2) until the waterworks either exceeds the lead or copper ~~action level~~ AL or becomes eligible for reduced monitoring

under 12VAC5-590-375 B 4 d. The owner of a waterworks exceeding the lead or copper ~~action level~~ AL shall propose optimal corrosion control treatment (subdivision A 1 a of this section) within six months after the end of the monitoring period during which it exceeds one of the ~~action levels~~ ALs.

(2) ~~Step 2~~: Within 12 months after the end of the monitoring period during which a waterworks exceeds the lead or copper ~~action level~~ AL, the ~~commissioner~~ department may require the owner to perform corrosion control studies (subdivision A 1 b of this section). If the ~~commissioner~~ department does not require the owner to perform ~~such~~ these studies, the ~~commissioner~~ department shall specify optimal corrosion control treatment (subdivision A 1 d of this section) within the following timeframes:

(a) For a medium waterworks, within 18 months after the end of the monitoring period during which ~~such~~ the waterworks exceeds the lead or copper ~~action level~~ AL.

(b) For a small waterworks, within 24 months after the end of the monitoring period during which ~~such~~ the waterworks exceeds the lead or copper ~~action level~~ AL.

(3) ~~Step 3~~: If the ~~commissioner~~ department requires ~~an~~ the owner to perform corrosion control studies under ~~Step 2~~ subdivision A 2 e (2) of this section, ~~then~~ the owner shall complete the studies (subdivision A 1 c of this section) and submit the study and recommendations to the ~~commissioner~~ department within 18 months after the ~~commissioner~~ department requires that ~~such~~ the studies be conducted.

(4) ~~Step 4~~: If the ~~waterworks~~ owner has performed corrosion control studies under ~~Step 2~~ subdivision A 2 e (2) of this section, ~~then~~ the ~~commissioner~~ department shall designate optimal corrosion control treatment (subdivision A 1 d of this section) within six months after completion of ~~Step 3~~ the provisions of subdivision A 2 e (3) of this section.

(5) ~~Step 5~~: The owner shall install optimal corrosion control treatment (subdivision A 1 e of this section) within 24 months after the ~~commissioner~~ department designates such treatment. See A construction permit is required before installation of any treatment, in accordance with 12VAC5-590-200.

(6) ~~Step 6~~: The owner shall complete follow-up sampling (12VAC5-590-375 B 4 b and 12VAC5-590-375 C 3) within 36 months after the ~~commissioner~~ department designates optimal corrosion control treatment.

(7) ~~Step 7~~: The ~~commissioner~~ department shall ~~review~~ evaluate the owner's installation of treatment and designate optimal water quality control parameters (subdivision A 1 f of this section) within six months after completion of ~~Step 6~~ the provisions of subdivision A 2 e (6) of this section.

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(8) ~~Step 8:~~ The owner shall operate the waterworks in compliance with the ~~commissioner—designated department-designated~~ optimal water quality control parameters (subdivision A 1 g of this section) and continue to conduct tap sampling (12VAC5-590-375 B 4 c and 12VAC5-590-375 C 4).

B. ~~Water supply (source water)~~ Source water treatment technique requirements for lead and copper. The owner of ~~any a~~ a waterworks exceeding the lead or copper ~~action level AL~~ shall complete the applicable ~~water supply source water~~ monitoring and treatment requirements (described in the referenced portions of subdivision B 2 of this section, and in 12VAC5-590-375 B and [12VAC5-590-375] D) by the following deadlines:-:

1. Deadlines for completing source water supply treatment steps.

a. ~~Step 1:~~ The owner of a waterworks exceeding the lead or copper ~~action level AL~~ shall complete lead and copper source water supply monitoring (12VAC5-590-375 D 2) and ~~make submit~~ a treatment proposal to the ~~district engineer department~~ (subdivision B 2 a of this section) no later than 180 days after the end of the monitoring period during which the lead or copper ~~action level AL~~ was exceeded.

b. ~~Step 2:~~ The ~~commissioner department~~ shall make a determination regarding the need for source water supply treatment (subdivision B 2 b of this section) within six months after submission of monitoring results under ~~Step 1~~ subdivision B 1 a of this section.

c. ~~Step 3:~~ If the ~~commissioner department~~ requires installation of source water supply treatment, ~~then~~ the owner shall install the treatment (subdivision B 3 of this section) within 24 months after completion of ~~Step 2~~ subdivision B 1 b of this section.

d. ~~Step 4:~~ The owner shall complete follow-up tap water monitoring (12VAC5-590-375 B 4 b) and source water supply lead and copper monitoring (12VAC5-590-375 D 3) within 36 months after completion of ~~Step 2~~ subdivision B 1 b.

e. ~~Step 5:~~ The ~~commissioner department~~ shall ~~review evaluate~~ the owner's installation and operation of the source water supply treatment and specify maximum permissible source water supply lead and copper levels (subdivision B 4 of this section) within six months after completion of ~~Step 4~~ subdivision B 1 d of this section.

f. ~~Step 6:~~ The owner shall operate the waterworks in compliance with the ~~commissioner-specified department-specified~~ maximum permissible source water lead and copper ~~water supply~~ levels (subdivision B 4 of this section) and continue source water supply monitoring (12VAC5-590-375 D 4).

2. Description of source water supply treatment requirements.

a. Waterworks treatment recommendation. The owner of ~~any a~~ a waterworks ~~which that~~ exceeds the lead or copper ~~action level AL~~ shall propose in writing to the ~~district engineer, department~~ the installation and operation of one of the source water supply treatments listed in subdivision B 2 b of this section. ~~An~~ The owner may propose that no treatment be installed based upon a demonstration that source water supply treatment is not necessary to minimize lead and copper levels at users' consumer taps.

b. ~~Commissioner's Department's~~ determination regarding source water supply treatment. The ~~commissioner department~~ shall complete an evaluation of the results of all source water supply samples submitted by the owner to determine whether source water supply treatment is necessary to minimize lead or copper levels in water delivered to users' consumer taps. If the ~~commissioner department~~ determines that treatment is needed, ~~then~~ the ~~commissioner department~~ shall either require installation and operation of the source water supply treatment recommended by the owner or require the installation and operation of another source water supply treatment from among the following: (i) ion exchange, ~~reverse osmosis~~ (ii) RO, (iii) lime softening, or (iv) ~~coagulation/filtration~~ coagulation or filtration. If the ~~commissioner department~~ requests additional information to aid in the ~~review~~ evaluation, ~~then~~ the owner shall provide the information by the date specified by the ~~commissioner department~~ in the request. The ~~commissioner department~~ shall notify the owner in writing of the determination and set forth the basis for the decision.

3. Installation of source water supply treatment. ~~Each~~ The owner shall properly install and operate the source water supply treatment designated by the ~~commissioner department~~ under subdivision B 2 b of this section.

4. ~~Commissioner's review~~ The department's evaluation of source water supply treatment and specification of maximum permissible source water supply lead and copper levels. The ~~commissioner department~~ shall ~~review evaluate~~ the source water supply samples ~~taken collected~~ by the owner both before and after the owner installs source water supply treatment, and determine whether the owner has properly installed and operated the source water supply treatment designated by the ~~commissioner department~~. Based upon the ~~review~~ evaluation, the ~~commissioner department~~ shall designate the maximum permissible lead and copper concentrations for finished water entering the distribution system. ~~Such~~ The levels shall reflect the contaminant removal capability of the treatment properly operated and maintained. The ~~commissioner department~~ shall notify the owner in writing and explain the basis for the decision.

5. Continued operation and maintenance. ~~Each~~ The waterworks shall be operated to maintain lead and copper levels below the maximum permissible concentrations designated by the ~~commissioner~~ department at each sampling point monitored in accordance with 12VAC5-590-375 D. The waterworks is out of compliance with this subdivision [~~A B~~] 5 if the level of lead or copper at any sampling point is greater than the maximum permissible concentration designated by the ~~commissioner~~ department.

6. Modification of the ~~commissioner's~~ department's treatment decisions. Upon ~~his own~~ the department's initiative or in response to a request by an owner or other interested party, the ~~commissioner~~ department may modify ~~his~~ the determination of the source water ~~supply~~ treatment under subdivision B 2 b of this section, or may modify the maximum permissible lead and copper concentrations for finished water entering the distribution system under subdivision B 4 of this section. A request for modification by an owner or other interested party shall be in writing, explain why the modification is appropriate, and provide supporting documentation. The ~~commissioner~~ department may modify the determination where ~~he concludes the~~ conclusion is made that such the change is necessary to ensure that the waterworks continues to minimize lead and copper concentrations in ~~water supplies~~ source waters. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the ~~commissioner's~~ department's decision, and provide an implementation schedule for completing the treatment modifications.

C. Lead service line replacement treatment technique requirements:

1. ~~Owners~~ The owner of a waterworks that ~~fail~~ fails to meet the lead ~~action level~~ AL in tap samples ~~taken~~ collected pursuant to 12VAC5-590-375 B 4 b, after installing corrosion control or source water ~~supply~~ treatment (whichever sampling occurs later), shall replace lead service lines in accordance with the requirements of this section. If ~~a waterworks~~ the owner is in violation of subdivision A 2 of this section or subsection B of this section for failure to install source water ~~supply~~ or corrosion control treatment, ~~then the commissioner~~ the department may require the owner to commence lead service line replacement under this section after the date by which the owner was required to conduct monitoring under 12VAC5-590-375 B 4 b has passed.

2. ~~An~~ The owner shall replace annually at least 7.0% of the initial number of lead service lines in its distribution system. The initial number of lead service lines is the number of lead lines in place at the time the replacement program begins. The owner shall identify the initial number of lead service lines in its distribution system based upon a materials evaluation, including the evaluation required under 12VAC5-590-375 B 1. The first year of lead service line

replacement shall begin on the first day following the end of the monitoring period in which the lead ~~action level~~ AL was exceeded under subdivision C 1 of this ~~subsection~~ section. If monitoring is required annually or less frequently, ~~then~~ the end of the monitoring period is September 30 of the calendar year in which the sampling occurs. If the ~~commissioner~~ department has established an alternate monitoring period, then the end of the monitoring period will be the last day of that period.

3. The owner of ~~any a~~ waterworks resuming a lead service line replacement program after the cessation of the lead service line replacement program as allowed by subdivision C 7 of this section shall update the inventory of lead service lines to include those sites that were previously determined not to require replacement through the sampling provision under subdivision C 4 of this section. The owner shall then divide the updated number of remaining lead service lines by the number of remaining years in the program to determine the number of lines that must be replaced per year (7.0% lead service line replacement is based on a 15-year replacement program; so, for example, ~~owners~~ the owner resuming lead service line replacement after previously conducting two years of replacement would divide the updated inventory by 13). For ~~those owners that have~~ the owner that has completed a 15-year lead service line replacement program, the ~~commissioner~~ department will determine a schedule for replacing or retesting lines that were previously tested out under the replacement program when the waterworks re-exceeds the lead ~~action level~~ AL.

4. ~~An~~ The owner is not required to replace an individual lead service line if the lead concentration in all service line samples from that line, ~~taken~~ collected pursuant to 12VAC5-590-375 B 2 c, is less than or equal to 0.015 mg/L.

5. ~~An~~ The owner shall replace that portion of the lead service line that is owned by the waterworks. In cases where the ~~waterworks~~ owner does not own the entire lead service line, the ~~waterworks~~ owner shall notify the building owner, or the building owner's authorized agent, that the ~~waterworks~~ owner will replace that portion of the service line that is owned by the waterworks and shall offer to replace the building owner's portion of the line. The ~~waterworks~~ owner is not required to bear the cost of replacing the building owner's portion of the service line, nor is the ~~waterworks~~ owner required to replace the building owner's portion where the ~~waterworks~~ owner chooses not to pay the cost of replacing the building owner's portion of the line, or where replacing the building owner's portion would be precluded by state, local, or common law. ~~A waterworks~~ The owner that does not replace the entire length of the service line also shall complete the following tasks:

a. At least 45 days ~~prior to~~ before commencing with the partial replacement of a lead service line, the ~~waterworks~~ owner shall provide notice to the resident or residents of all buildings served by the line explaining that they may

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experience a temporary increase of lead levels in ~~their~~ the drinking water, along with guidance on measures consumers can take to minimize their exposure to lead. The ~~commissioner~~ department may allow the waterworks owner to provide notice under the previous sentence less than 45 days ~~prior to~~ before commencing partial lead service line replacement where ~~such~~ the replacement is in conjunction with emergency repairs. In addition, the ~~waterworks~~ owner shall inform ~~the~~ each resident ~~or residents~~ served by the lead service line that the ~~waterworks~~ owner will, at the ~~waterworks~~ owner's expense, collect a sample from each ~~partially-replaced~~ partially-replaced lead service line that is representative of the water in the service line for analysis of lead content, as prescribed in 12VAC5-590-375 B 2 c, within 72 hours after the completion of the partial replacement of the lead service line. The ~~waterworks~~ owner shall collect the sample and report the results of the analysis to the building owner and each resident ~~or residents~~ served by the service line within three business days of receiving the results. Mailed notices post-marked within three business days of receiving the results shall be considered on time.

b. The ~~waterworks~~ owner shall provide the information required by subdivision C 5 a of this section to the residents of individual dwellings by mail or by other methods approved by the ~~commissioner~~ department. In instances where multi-family dwellings are served by the service line, the ~~waterworks~~ owner shall have the option to post the information at a conspicuous location.

6. The ~~commissioner~~ department shall require ~~an~~ the owner to replace lead service lines on a shorter schedule than that required by this subsection, taking into account the number of lead service lines in the waterworks, where ~~such~~ a shorter replacement schedule is feasible. The ~~commissioner~~ department shall make this determination in writing and notify the owner of the findings within six months after the waterworks is triggered into lead service line replacement based on monitoring referenced in subdivision C 1 of this section.

7. ~~Any~~ The owner may cease replacing lead service lines whenever ~~first-draw~~ first-draw tap samples collected pursuant to 12VAC5-590-375 B 2 b meet the lead ~~action level~~ AL during each of two consecutive ~~six-month~~ monitoring periods and the owner submits the results to the ~~district engineer~~ department. If the ~~first-draw~~ first-draw tap samples collected in ~~any such~~ a waterworks thereafter ~~exceeds~~ exceed the lead ~~action level~~ AL, ~~then~~ the owner shall recommence replacing lead service lines, pursuant to subdivision C 3 of this section.

8. To demonstrate compliance with subdivisions C 1 through C 5 of this section, an owner shall report to the ~~district engineer~~ department the information specified in ~~12VAC5-590-530 F 5~~ 12VAC5-590-532.

D. Lead public education requirements. The ~~waterworks~~ owner shall deliver a consumer notice of lead tap water monitoring results to all persons served by the ~~water system~~ waterworks at sites that are tested in accordance with subdivision D 4 of this section. The owner of a waterworks that exceeds the lead ~~action level~~ AL based on tap water samples collected in accordance with 12VAC5-590-375 B shall deliver the public education materials contained in ~~subdivisions~~ subdivision D 1 of this section in accordance with the requirements in subdivision D 2 of this section. The owner of a waterworks that exceeds the lead ~~action level~~ AL shall sample the tap water of any customer who requests it in accordance with subdivision D 3 of this section.

1. Content of written materials. The owner shall include the following text in all of the printed materials distributed through the lead public education program:

a. Community waterworks and ~~nontransient noncommunity waterworks~~ NTNCs. ~~Owners~~ The owner of community waterworks or ~~nontransient noncommunity waterworks~~ a NTNC shall include the following elements in printed materials (e.g., brochures and pamphlets) in the same order as listed ~~below in this subdivision [D 1]~~ a. In addition, the language specified in subdivisions D 1 a (1) ~~through and~~ D 1 a (2) and in subdivision D 1 a (6) of this section shall be included in materials, exactly as written, except for the text in brackets for which the ~~waterworks~~ owner shall include system-specific information. Any additional information presented by the owner shall be consistent with the information ~~below in this subdivision [D 1]~~ a and be in plain language that can be understood by the general public. The ~~commissioner~~ department may require the ~~waterworks~~ owner to obtain approval of the content of written material ~~prior to~~ before delivery.

(1) IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER. ~~{INSERT NAME OF WATERWORKS}~~ "(Insert name of waterworks) found elevated levels of lead in drinking water in some ~~homes/buildings~~ homes or buildings. Lead can cause serious health problems, especially for pregnant women and young children. Please read this information closely to see what you can do to reduce lead in your drinking water."

(2) Health effects of lead. "Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life."

During pregnancy, the child receives lead from the mother's bones, which may affect brain development."

(3) Sources of lead.

(a) Explain what lead is.

(b) Explain possible sources of lead in drinking water and how lead enters drinking water. Include information on home/building home or building materials and services lines that may contain lead.

(c) Discuss other important sources of lead exposure in addition to drinking water (e.g., paint).

(4) Discuss the steps the consumer can take to reduce their exposure to lead in drinking water.

(a) Encourage running the water to flush out the lead.

(b) Explain concerns with using hot water from the tap and specifically caution against the use of hot water for preparing baby formula.

(c) Explain that boiling water does not reduce lead levels.

(d) Discuss other options consumers can take to reduce exposure to lead in drinking water, such as alternative sources or treatment of water.

(e) Suggest that parents have their child's blood tested for lead.

(5) Explain why there are elevated levels of lead in the waterworks' drinking water (if known) and what the ~~waterworks~~ owner is doing to reduce the lead levels in ~~homes/buildings~~ homes and buildings.

(6) "For more information call us at ~~[INSERT WATERWORKS OWNER'S CONTACT PHONE NUMBER], or [IF APPLICABLE] (Insert owner's contact phone number), or if applicable, visit our website at [INSERT WATERWORKS' WEBSITE HERE] (Insert waterworks' website URL here).~~ For more information on reducing lead exposure around your home/building home or building and the health effects of lead, visit EPA's website at <http://www.epa.gov/lead> or contact your health care provider."

b. In addition to including the elements specified in subdivision D 1 a of this section, the ~~owners~~ owner of a community waterworks shall:

(1) Tell consumers how to get their water tested.

(2) Discuss lead in plumbing components and the difference between low lead and lead free. "Lead free" means (i) when used with respect to solders and flux refers to solders and flux containing not more than 0.2% lead, and (ii) when used with respect to pipes, pipe fittings, plumbing fittings, and plumbing fixtures refers to the weighted average of wetted surfaces of pipes, pipe fittings, plumbing fittings, and plumbing fixtures containing not more than 0.25% lead.

2. Delivery of public education materials.

a. The owner of ~~any~~ a waterworks serving a large proportion of non-English speaking consumers, as determined by the ~~commissioner~~ department, shall include in all public education materials information in the appropriate ~~language(s)~~ languages regarding the importance of the notice or contain a telephone number or address where persons served may contact the ~~water system waterworks~~ to obtain a translated copy of the public education materials or to request assistance in the appropriate language.

b. The owner of a community waterworks that exceeds the lead ~~action level~~ AL on the basis of tap water samples collected in accordance with 12VAC5-590-375 B, and that is not already conducting public education tasks, shall conduct the public education tasks under this subdivision within 60 days after the end of the monitoring period in which the exceedance occurred. For a waterworks that ~~are~~ is required to conduct monitoring annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or, if the ~~commissioner~~ department has established an alternate monitoring period, the last day of that period. These public education tasks include:

(1) ~~Deliver~~ Delivering printed materials meeting the content requirements of subdivision D 1 of this section to all bill paying customers.

(2) ~~Contact~~ Contacting customers who are most at risk by delivering education materials that meet the content requirements of subdivision D 1 of this section to the local health department even if they are not located within the ~~water system's~~ waterworks service area, along with an informational notice that encourages distribution to all the organization's potentially affected customers or community ~~water system's users~~ waterworks consumers. The ~~waterworks~~ owner shall contact the local health department directly by phone or in person. The local health department may provide a specific list of additional community based organizations serving target populations, which may include organizations outside the service area of the ~~water system waterworks.~~ If ~~such~~ these lists are provided, then the ~~waterworks~~ owner shall deliver education materials that meet the content requirements of subdivision D 1 of this section to all organizations on the provided lists.

(3) ~~Contact~~ Contacting customers who are most at risk by delivering materials that meet the content requirements of subdivision D 1 of this section to the following organizations that are located within the ~~water system's~~ waterworks service area, along with an informational notice that encourages distribution to all the organization's potentially affected customers or community ~~water system's~~ waterworks users: (i) public and private schools or school boards; (ii) Women, Infants and Children (WIC) and Head Start programs; (iii) public and private hospitals

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and medical clinics; (iv) pediatricians; (v) family planning clinics; and (vi) local welfare agencies.

(4) Make a good faith effort to locate the following organizations within the service area and deliver materials that meet the content requirements of subdivision D 1 of this section to them, along with an informational notice that encourages distribution to all potentially affected customers or ~~users~~ consumers. The good faith effort to contact at-risk customers may include requesting a specific contact list of these organizations from the local health department, even if the agencies are not located within the ~~water system's~~ waterworks service area: (i) licensed childcare centers; (ii) public and private preschools; and (iii) obstetricians-gynecologists and midwives.

(5) No less often than quarterly, ~~provide~~ providing information on or in each water bill as long as the waterworks exceeds the ~~action level~~ AL for lead. The message on the water bill shall include the following statement exactly as written except for the text in brackets for which the owner shall include system-specific information: ~~[INSERT NAME OF WATERWORKS]~~ "(Insert name of waterworks) found high levels of lead in drinking water in some homes. Lead can cause serious health problems. For more information please call [INSERT NAME OF WATERWORKS] or visit [IF APPLICABLE INSERT WATERWORKS' WEBSITE] (insert name of waterworks) or (if applicable) visit our website at (insert waterworks website URL here)". The message or delivery mechanism can be modified in consultation with the ~~commissioner~~ department; specifically, the ~~commissioner~~ department may allow a separate mailing of public education materials to customers if the ~~waterworks~~ owner cannot place the information on water bills.

(6) ~~Post~~ Posting materials meeting the content requirements of subdivision D 1 of this section on the ~~waterworks'~~ waterworks website if the waterworks serves a population greater than 100,000 persons.

(7) ~~Submit~~ Submitting a press release to newspapers, television, and radio stations.

(8) In addition to the delivery requirements contained in subdivisions D 2 b (1) through D 2 b (7) of this section, the ~~owners of~~ owner of a waterworks exceeding the lead ~~action level~~ AL shall implement at least three activities from one or more of the following categories: (i) public service announcements; (ii) paid advertisements; (iii) public area informational displays; (iv) ~~e-mails~~ emails to customers; (v) public meetings; (vi) household deliveries; (vii) targeted individual customer contact; (viii) direct material distribution to all multi-family homes and institutions; and (ix) other methods approved by the ~~commissioner~~ department. The educational content and

selection of these activities shall be determined in consultation with the ~~district engineer~~ department.

(9) As long as a community ~~water system~~ waterworks exceeds the lead ~~action level~~ AL, the ~~waterworks~~ owner shall repeat the following public education activities:

(a) The ~~owner of a~~ community ~~water system~~ owner waterworks shall repeat the tasks contained in subdivisions D 2 b (1) ~~through~~ D 2 b (2), D 2 b (3), and D 2 b (8) of this section every 12 months.

(b) The ~~owner of a~~ community ~~water system~~ owner waterworks shall repeat tasks contained in subdivision D 2 b (5) of this section with each billing cycle.

(c) The owner of a community ~~water system~~ waterworks serving a population greater than 100,000 shall post and retain the material on a publicly accessible website pursuant to subdivision D 2 b (6) of this section.

(d) The ~~owner of a~~ community ~~water system~~ owner waterworks shall repeat the task in subdivision D 2 b (7) of this section twice every 12 months on a schedule agreed upon with the ~~commissioner~~ department.

(10) The ~~commissioner~~ department may allow the public education activities described in subdivision D 2 b of this section to extend beyond the 60-day requirement if needed for implementation purposes on a case-by-case basis; however, this extension must be approved in writing by the ~~commissioner~~ department in advance of the 60-day deadline.

c. The owner of a ~~nontransient noncommunity waterworks~~ NTNC that exceeds the lead ~~action level~~ AL on the basis of tap water samples collected in accordance with 12VAC5-590-375 B, and that is not already conducting public education tasks, shall conduct the public education tasks under this subdivision within 60 days after the end of the monitoring period in which the exceedance occurred. For a waterworks that ~~are~~ is required to conduct monitoring annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or, if the ~~commissioner~~ department has established an alternate monitoring period, the last day of that period. These public education tasks include:

(1) ~~Post~~ Posting informational posters containing all of the public education elements contained in subdivision D 1 of this section in a public place or common area in each of the buildings served by the waterworks; and

(2) ~~Distribute~~ Distributing informational pamphlets or brochures on lead in drinking water containing all of the public education elements in subdivision D 1 of this section to each person served by the ~~nontransient noncommunity waterworks~~ NTNC. The ~~commissioner~~ department may allow the owner to utilize electronic transmission ~~in lieu~~ instead of or combined with printed materials as long as it achieves at least the same coverage.

(3) The owner of a ~~nontransient noncommunity waterworks~~ NTNC shall repeat the tasks contained in subdivisions D 2 c (1) ~~through and~~ D 2 c (2) of this section at least once during each calendar year in which the waterworks exceeds the lead ~~action level~~ AL.

(4) The ~~commissioner~~ department may allow the public education activities described in subdivision D 2 c of this section to extend beyond the 60-day requirement if needed for implementation purposes on a case-by-case basis; however, this extension must be approved in writing by the ~~commissioner~~ department in advance of the 60-day deadline.

d. ~~An~~ The owner may discontinue delivery of public education materials if the waterworks has met the lead ~~action level~~ AL during the most recent six-month monitoring period conducted pursuant to 12VAC5-590-375 B. The owner shall recommence public education in accordance with this subsection if the waterworks subsequently exceeds the lead ~~action level~~ AL during any monitoring period.

e. The owner of a community waterworks may apply to the ~~district engineer, department,~~ in writing, (unless the ~~commissioner~~ department has waived the requirement for prior approval) to use only the text specified in subdivision D 1 a of this section ~~in lieu instead~~ of the text in subdivisions D 1 a ~~through and~~ D 1 b of this section and to perform the tasks listed in subdivisions D 2 c (1) ~~through and~~ D 2 c (2) of this section ~~in lieu instead~~ of the tasks in subdivisions D 2 b (1) through D 2 b (9) of this section if:

(1) The waterworks serves a facility, such as a prison or a hospital, where the population served is not capable of or is prevented from making improvements to plumbing or installing POU treatment devices; and

(2) The owner provides water as part of the cost of services provided and does not separately charge for water consumption.

f. The owner of a community waterworks serving 3,300 or fewer people may limit certain aspects ~~their~~ of the public education programs as follows:

(1) With respect to the requirements of subdivision D 2 b (8) of this section, the owner of a waterworks serving 3,300 or fewer people shall implement at least one of the activities listed in that subdivision.

(2) With respect to the requirements of subdivision D 2 b (2) of this section, the owner of a waterworks serving 3,300 or fewer people may limit the distribution of the public education materials required under that subdivision to facilities and organizations served by the waterworks that are most likely to be visited regularly by pregnant women and children.

(3) With respect to the requirements of subdivision D 2 b (7) of this section, the ~~commissioner~~ department may

waive this requirement for ~~systems~~ waterworks serving 3,300 or fewer persons as long as the owner distributes notices to every household served by the waterworks.

3. Supplemental monitoring and notification of results. The owner of a waterworks that fails to meet the lead ~~action level~~ AL on the basis of tap samples collected in accordance with 12VAC5-590-375 B shall offer to sample the tap water of any customer who requests it. The owner is not required to pay for collecting or analyzing the sample, nor is the owner required to collect and analyze the sample itself.

4. Notification of results. The ~~owners of all~~ owner of a community ~~and nontransient noncommunity~~ waterworks ~~or~~ a NTNC shall provide a notice of the individual tap results from lead tap water monitoring carried out under the requirements of 12VAC5-590-375 B to the persons served by the waterworks at the specific sampling site from which the sample was ~~taken~~ collected (e.g., the occupants of the residence or buildings where the tap was tested).

a. Timing of notification. ~~An~~ The owner shall provide this consumer notice as soon as practical, but no later than 30 days after the owner learns of the tap monitoring results.

b. Content. The consumer notice shall include the results of lead tap water monitoring for the tap that was tested, an explanation of the health effects of lead, list steps consumers can take to reduce exposure to lead in drinking water, and contact information for the waterworks. The notice shall also provide the ~~maximum contaminant level goal~~ MCLG and the ~~action level~~ AL for lead and the definitions for these two terms from 12VAC5-590-10.

c. Delivery. The consumer notice shall be provided to persons served at the tap that was tested, either by postal mail or by another method approved by the ~~commissioner~~ department. For example, the owner of a ~~nontransient noncommunity waterworks~~ NTNC may post the results on a bulletin board in the facility to allow ~~users~~ consumers to review the information. The owner shall provide the notice to customers at sample taps tested, including consumers who do not receive water bills.

EDITOR'S NOTE: The proposed repeal of 12VAC5-590-410 was adopted as final. View the entire repealed section at [36:6 VA.R. 475-845 November 11, 2019](#).

12VAC5-590-411. Disinfection byproduct precursors, disinfection byproducts, and maximum residual disinfection level treatment techniques.

A. Treatment technique for control of DBPPs.

1. Applicability.

a. The owner of a community waterworks or a NTNC shall comply with treatment techniques for the control of DBPPs.

b. A waterworks that uses a surface water source, a GUDI source, or both using conventional filtration treatment

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shall operate with enhanced coagulation or enhanced softening to achieve the TOC percentage removal levels specified in subdivision A 2 of this section unless the waterworks meets at least one of the alternative compliance criteria listed in subdivision A 1 c or A 1 d of this section.

c. Alternative compliance criteria for enhanced coagulation and enhanced softening waterworks. A waterworks that uses a surface water source, a GUDI source, or both provided with conventional filtration treatment may use the alternative compliance criteria in subdivisions A 1 c (1) through A 1 c (6) of this section to comply with this section instead of complying with subdivision A 2 of this section. The owner shall comply with monitoring requirements in 12VAC5-590-374 I.

(1) The waterworks' source water TOC level is less than 2.0 mg/L, calculated quarterly as an RAA.

(2) The waterworks' treated water TOC level is less than 2.0 mg/L, calculated quarterly as an RAA.

(3) The waterworks' source water TOC level is less than 4.0 mg/L, calculated quarterly as an RAA; the source water alkalinity is greater than 60 mg/L (as CaCO₃), calculated quarterly as an RAA; and no TTHM and HAA5 LRAAs are greater than 0.040 mg/L and 0.030 mg/L, respectively.

(4) No TTHM and HAA5 LRAAs are greater than 0.040 mg/L and 0.030 mg/L, respectively, and the waterworks uses only chlorine for primary disinfection and maintains a residual in the distribution system.

(5) The waterworks' source water SUVA, before any treatment and measured monthly, is less than or equal to 2.0 liters per milligram-meter (L/mg-m), calculated quarterly as an RAA.

(6) The waterworks' finished water SUVA, measured monthly, is less than or equal to 2.0 L/mg-m, calculated quarterly as an RAA.

d. Additional alternative compliance criteria for softening waterworks. A waterworks practicing enhanced softening that cannot achieve the TOC removals required by subdivision A 2 b of this section may use the alternative compliance criteria in subdivisions A 1 c (1) and A 1 c (2) instead of complying with subdivision A 2 of this section. A waterworks shall comply with monitoring requirements in 12VAC5-590-374 [11].

(1) Softening that results in lowering the treated water alkalinity to less than 60 mg/L (as CaCO₃), measured monthly and calculated quarterly as an RAA.

(2) Softening that results in removing at least 10 mg/L of magnesium hardness (as CaCO₃), measured monthly and calculated quarterly as an RAA.

2. Enhanced coagulation and enhanced softening performance requirements.

a. A waterworks shall achieve the percentage reduction of TOC specified in subdivision A 2 b of this section between the source water and the CFE, unless the department approves an owner's request for alternate minimum TOC removal (Step 2) requirements under subdivision A 2 c of this section.

Required Step 1 TOC reductions, indicated in Table 411.1, are based upon specified source water parameters. A waterworks practicing softening is required to meet the Step 1 TOC reductions in the far-right column (source water alkalinity greater than 120 mg/L) for the specified source water TOC.

b. [Step 1 Required removal of TOC by "Enhanced Coagulation and Enhanced Precipitative Softening Guidance Manual," May 1999, EPA Office of Water. Required Step 1 TOC reductions are indicated in Table 411.1, Required Percentage Removals of TOC.]

SOURCE WATER TOC, mg/L	SOURCE WATER ALKALINITY, mg/L as CaCO ₃		
	0 - 60	>60 - 120	>120 ^c
>2.0 - 4.0	35.0%	25.0%	15.0%
>4.0 - 8.0	45.0%	35.0%	25.0%
>8.0	50.0%	40.0%	30.0%

^aA waterworks meeting at least one of the conditions in subdivisions A 1 c (1) through A 1 c (6) of this section is not required to operate with enhanced coagulation.

^bA waterworks utilizing softening and meeting one of the alternative compliance criteria in subdivision A 1 d of this section is not required to operate with enhanced softening.

^cA waterworks practicing softening shall meet the TOC removal requirements in this column.

c. A waterworks that uses a surface water source, a GUDI source, or both with conventional treatment that cannot achieve the Step 1 TOC removals required by subdivision A 2 b due to water quality parameters or operational constraints shall apply to the department within three months of failure to achieve the TOC removals required by subdivision A 2 b of this section for approval of alternative minimum TOC (Step 2) removal requirements submitted by the owner. If the department approves the alternative minimum TOC removal (Step 2) requirements, then the department may make those requirements retroactive for the purposes of determining compliance. Until the department approves the alternate minimum TOC removal (Step 2) requirements, the waterworks shall meet the Step 1 TOC removals contained in subdivision A 2 b of this section.

d. Alternate minimum TOC removal (Step 2) requirements. Applications made to the department by the owner of a waterworks using enhanced coagulation for approval of alternative minimum TOC removal (Step 2) requirements under subdivision A 2 c of this section shall include, at a minimum, results of bench-scale or pilot-scale testing conducted under subdivision A 2 d (1) of this section. The submitted bench-scale or pilot-scale testing shall be used to determine the alternate enhanced coagulation level.

(1) Alternate enhanced coagulation level is defined as coagulation at a coagulant dose and pH as determined by the method described in subdivisions A 2 d (1) through A 2 d (5) of this section so that an incremental addition of 10 mg/L of alum (or equivalent amount of ferric salt) results in a TOC removal of equal to or less than 0.3 mg/L. The percentage removal of TOC at this point on the "TOC removal versus coagulant dose" curve is then defined as the minimum TOC removal required for the waterworks. Once approved by the department, this minimum requirement supersedes the minimum TOC removal requirements listed in Table 411.1. This requirement shall be effective until the department approves a new value based on the results of a new bench-scale and pilot-scale test. Failure to achieve the alternative minimum TOC removal levels set by the department is a violation of this section.

(2) Bench-scale or pilot-scale testing of enhanced coagulation shall be conducted by using representative water samples and adding 10 mg/L increments of alum (or equivalent amounts of ferric salt) until the pH is reduced to a level less than or equal to the enhanced coagulation Step 2 target pH shown in Table 411.2.

<u>TABLE 411.2</u> <u>Enhanced Coagulation</u>	
<u>ALKALINITY (mg/L as CaCO₃)</u>	<u>TARGET pH</u>
<u>0 - 60</u>	<u>5.5</u>
<u>>60 -120</u>	<u>6.3</u>
<u>>120 - 240</u>	<u>7.0</u>
<u>>240</u>	<u>7.5</u>

(3) For source waters with alkalinities of less than 60 mg/L for which addition of small amounts of alum or equivalent addition of iron coagulant drives the pH below 5.5 before significant TOC removal occurs, the waterworks shall add necessary chemicals to maintain the pH between 5.3 and 5.7 in samples until the TOC removal of 0.3 mg/L per 10 mg/L alum added (or equivalent addition of iron coagulant) is reached.

(4) The waterworks may operate at any coagulant dose or pH necessary (consistent with other sections of this chapter) to achieve the minimum TOC percentage removal approved under subdivision A 2 c of this section.

(5) If the TOC removal is consistently less than 0.3 mg/L of TOC per 10 mg/L of incremental alum dose at all dosages of alum (or equivalent addition of iron coagulant), then the water is deemed to contain TOC not amenable to enhanced coagulation. The owner may then apply to the department for a waiver of enhanced coagulation requirements.

3. Compliance calculations.

a. A waterworks that uses a surface water source, a GUDI source, or both other than those identified in subdivision A 1 b or A 1 c of this section shall comply with requirements contained in subdivision A 2 b or A 2 c of this section. The owner shall calculate compliance quarterly, beginning after the waterworks has collected 12 months of data, by determining an annual average using the following method:

(1) Determine actual monthly TOC percentage removal, equal to:

$$[1-(\text{treated water TOC}/\text{source water TOC})] \times 100.$$

(2) Determine the required monthly TOC percentage removal (from either Table 411.1 or from subdivision A 2 c of this section).

(3) Divide the value in subdivision A 3 a (1) of this section by the value in subdivision A 3 a (2) of this section.

(4) Add together the results of subdivision A 3 a (3) of this section for the last 12 months and divide by 12.

(5) If the value calculated in subdivision A 3 a (4) of this section is less than 1.00, then the waterworks is not in compliance with the TOC percentage removal requirements.

b. The owner may use the provisions in subdivisions A 3 b (1) through A 3 b (5) of this section instead of the calculations in subdivisions A 3 a (1) through A 3 a (5) of this section to determine compliance with TOC percentage removal requirements.

(1) In any month that the waterworks' treated or source water TOC level is less than 2.0 mg/L, the waterworks may assign a monthly value of 1.0 (instead of the value calculated in subdivision A 3 a (3) of this section) when calculating compliance under the provisions of subdivision A 3 a of this section.

(2) In any month that a waterworks practicing softening removes at least 10 mg/L of magnesium hardness (as CaCO₃), the waterworks may assign a monthly value of 1.0 (instead of the value calculated in subdivision A 3 a (3) of this section) when calculating compliance under the provisions of subdivision A 3 a of this section.

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(3) In any month that the waterworks source water SUVA before any treatment is equal to or less than 2.0 L/mg-m, the waterworks may assign a monthly value of 1.0 (instead of the value calculated in subdivision A 3 a (3) of this section) when calculating compliance under the provisions of subdivision A 3 a of this section.

(4) In any month that the waterworks finished water SUVA is equal to or less than 2.0 L/mg-m, the waterworks may assign a monthly value of 1.0 (instead of the value calculated in subdivision A 3 a (3) of this section) when calculating compliance under the provisions of subdivision A 3 a of this section.

(5) In any month that the waterworks practicing enhanced softening lowers the alkalinity below 60 mg/L (as CaCO₃), the waterworks may assign a monthly value of 1.0 (instead of the value calculated in subdivision A 3 a (3) of this section) when calculating compliance under the provisions of subdivision A 3 a of this section.

c. A waterworks that uses a surface water source, a GUDI source, or both and uses conventional treatment may also comply with the requirements of this section by meeting the criteria in subdivision A 1 b or A 1 c of this section.

4. Enhanced coagulation or enhanced softening is the treatment technique required to control the level of DBP precursors in water treatment and distribution system for a waterworks using a surface water source, a GUDI source, or both and using conventional treatment.

B. The BAT, treatment techniques, or other means available for achieving compliance with the PMCLs for DBPs shown in Table 340.6 are listed in this subsection:

1. The BAT, treatment techniques, or other means available for achieving compliance with the PMCLs for bromate and chlorite:

<u>DISINFECTION BYPRODUCT</u>	<u>BEST AVAILABLE TECHNOLOGY</u>
<u>Bromate</u>	<u>Control of ozone treatment process to reduce production of bromate</u>
<u>Chlorite</u>	<u>Control of treatment processes to reduce disinfectant demand and control of disinfection treatment processes to reduce disinfectant levels</u>

2. The BAT, treatment techniques, or other means available for achieving compliance with the RAA PMCLs for TTHM and HAA5:

<u>DISINFECTION BYPRODUCT</u>	<u>BEST AVAILABLE TECHNOLOGY</u>
<u>TTHM and HAA5</u>	<u>Enhanced coagulation or enhanced softening or GAC10, with chlorine as the primary and residual disinfectant</u>

3. The BAT, treatment techniques, or other means available for achieving compliance with the LRAA PMCLs for TTHM and HAA5 for a waterworks that disinfects its source water:

<u>DISINFECTION BYPRODUCT</u>	<u>BEST AVAILABLE TECHNOLOGY</u>
<u>TTHM and HAA5</u>	<u>Enhanced coagulation or enhanced softening, plus GAC10; or NF with a molecular weight cutoff fewer than or equal to 1,000 Daltons; or GAC20</u>

4. The BAT, treatment techniques, or other means available for achieving compliance with the LRAA MCLs for TTHM and HAA5 for a consecutive waterworks and applies only to the disinfected water that a consecutive waterworks buys or otherwise receives:

<u>DISINFECTION BYPRODUCT</u>	<u>BEST AVAILABLE TECHNOLOGY</u>
<u>TTHM and HAA5</u>	<u>A waterworks serving equal to or greater than 10,000 people: Improved distribution system and storage tank management to reduce residence time, plus the use of chloramines for residual disinfectant maintenance</u> <u>A waterworks serving fewer than 10,000 people: Improved distribution system and storage tank management to reduce residence time</u>

C. The BAT, treatment techniques, or other means available for achieving compliance with the MRDLs identified in Table 340.7 are the controls of treatment processes to reduce disinfectant demand and controls of disinfection treatment processes to reduce disinfectant levels.

12VAC5-590-415. Uncovered finished water storage.

A. A waterworks with uncovered finished water storage facilities shall comply with the requirements to cover the facility as described in this section.

B. The owner shall immediately notify the department of the use of each uncovered finished water storage facility.

C. All uncovered finished water storage facilities shall be covered in compliance with a schedule approved by the department.

D. Failure to comply with the requirements of this section is a violation of the treatment technique requirement.

EDITOR'S NOTE: The proposed repeal of 12VAC5-590-420 was adopted as final. View the entire repealed section at [36:6 VA.R. 475-845 November 11, 2019](#).

12VAC5-590-421. Groundwater system treatment techniques.

A. ~~Owners~~ The owner of a groundwater systems system that (i) ~~have~~ has a confirmed E. coli contamination as described in 12VAC5-590-379 B or (ii) ~~have~~ has been notified in writing of a significant deficiency as described in 12VAC5-590-350 D shall meet the requirements of this section. Failure to meet any requirement of this section after the applicable time period specified is a treatment technique violation.

1. ~~Owners of groundwater systems meeting either one of the conditions in clause (i) or (ii) above~~ The owner shall implement one or more of the following corrective actions:

- a. Correct all significant deficiencies;
- b. Provide an alternate source of water;
- c. Eliminate the source of contamination; or
- d. Provide treatment of the groundwater source that reliably achieves at least 4-log treatment of viruses before or at the first ~~consumer~~ customer.

2. Unless the ~~ODW~~ department directs the ~~groundwater system~~ owner to implement a specific corrective action, the ~~groundwater system~~ owner shall consult with the ~~ODW~~ department regarding the appropriate corrective action within 30 days of receiving written notification from the ~~commissioner~~ department or the laboratory. This consultation may take the form of a telephone conversation, ~~electronic mail~~ email, meeting, or other mechanism agreed to by the ~~ODW~~ department.

3. Within 45 days of receiving this notification, the ~~groundwater system~~ owner shall submit a written ~~Corrective Action Plan~~ corrective action plan (CAP) to the ~~commissioner~~ department that satisfactorily addresses the deficiency. The CAP shall include a schedule for completing individual actions, and it shall include one or more of the corrective actions in subdivision A 1 of this section. Approval of the CAP by the ~~commissioner~~ department constitutes an approved CAP.

4. Within 120 days of receiving written notification from the ~~commissioner~~ department or the laboratory, the ~~groundwater system~~ owner shall either:

a. Have a completed corrective ~~action~~ actions in accordance with the ~~commissioner-approved~~ department approved CAP including ~~commissioner-specified~~ department specified interim measures; or

b. Be in compliance with a ~~commissioner-approved~~ department approved CAP and schedule ~~subject to the conditions specified in subdivisions 4 b 1 and 2 of this subsection.~~

(1) Any subsequent modifications to a ~~commissioner-approved~~ department approved CAP and schedule shall also be approved by the ~~commissioner~~ department.

(2) If the ~~commissioner~~ department specifies interim measures for protection of the public health pending the ~~commissioner's~~ department's approval of the CAP and schedule or pending completion of the CAP, then the ~~groundwater system~~ owner shall comply with these interim measures as well as with any schedule specified by the ~~commissioner~~ department.

5. When a significant deficiency is identified at a waterworks that uses both a groundwater and a surface water or a GUDI source, the owner shall comply with this section unless the ~~commissioner~~ department has determined that the significant deficiency is in a portion of the distribution system that is served solely by the surface water or a the GUDI source.

B. ~~Owners~~ The owner of a groundwater systems system that ~~provide~~ provides at least 4-log treatment of viruses before or at the first customer shall conduct compliance monitoring to demonstrate treatment effectiveness in accordance with subsection C of this section. The owner shall also conduct source water monitoring in accordance with 12VAC5-590-379 C.

1. ~~Existing groundwater sources. A groundwater system that is not required to meet the source water monitoring requirements of 12VAC5-590-379 for any groundwater source(s) because the owner has been notified by the ODW that the groundwater system provides at least 4 log treatment of viruses before or at the first customer for any groundwater source(s) shall comply with the following:~~

a. ~~The groundwater system owner shall have written approval from the ODW that the groundwater system provides at least 4 log treatment of viruses before or at the first customer served by the groundwater source.~~

b. ~~The groundwater system owner shall conduct compliance monitoring as required by subsection C of this section within 30 days of placing the source in service.~~

2. ~~New groundwater sources. A groundwater system owner that places a new groundwater source into service shall meet the requirements of subdivisions 1 a and b of this subsection and conduct raw water monitoring in accordance with 12VAC5-590-425. The groundwater system owner shall provide engineering, operational, or other information as~~

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required by the ~~ODW~~ department to complete a determination of virus treatment effectiveness.

C. The owner of a groundwater system ~~subject to the requirements of subsection B of this section that provides at least 4-log treatment of viruses~~ shall monitor the effectiveness and reliability of treatment for that groundwater source before or at the first customer as follows:

1. Chemical disinfection.

a. The owner of a groundwater system that serves greater than 3,300 people shall continuously monitor and record the residual disinfectant concentration using analytical methods specified in ~~40 CFR 141.74 (a)(2) 12VAC5-590-440~~ at a location approved by the ~~ODW~~ department and shall record the lowest residual disinfectant concentration each day that water from the groundwater source is served to the public. The ~~groundwater system~~ owner shall maintain at least the ODW-determined department-determined residual disinfectant concentration every day the groundwater system serves water from the groundwater source to the public. If there is a failure in the continuous monitoring equipment, the ~~groundwater system~~ owner shall conduct grab sampling every four hours until the continuous monitoring equipment is returned to service. The system shall resume continuous residual disinfectant monitoring within 14 days.

b. The owner of a groundwater system that serves 3,300 or fewer people shall monitor the residual disinfectant concentration using analytical methods specified in ~~40 CFR 141.74 (a)(2) 12VAC5-590-440~~ at a location approved by the ~~ODW~~ department and record the residual disinfection concentration each day that water from the groundwater source is served to the public. The ~~groundwater system~~ owner shall maintain the ~~ODW-determined department-determined~~ residual disinfectant concentration every day the groundwater system serves water from the groundwater source to the public. The ~~groundwater system~~ owner shall ~~take~~ collect a daily grab sample during the hour of peak flow or at another time specified by the ~~ODW~~ department. If any daily grab sample measurement falls below the ~~ODW-determined department-determined~~ residual disinfectant concentration, the ~~groundwater system~~ owner shall ~~take~~ collect follow-up samples every four hours until the residual disinfectant concentration is restored to the ~~ODW-determined department-determined~~ level. ~~A~~ The owner of a groundwater system that serves 3,300 or fewer people may monitor continuously to meet the requirements of this subsection.

c. When the disinfection treatment is required based on confirmed E. coli contamination in the source water, the requirements in this section apply. When the disinfection treatment is required for any other reason or provided voluntarily by the owner, the department will determine the frequency of residual disinfectant monitoring.

~~e. d.~~ Failure to maintain the ~~ODW-specified~~ department-specified minimum residual disinfectant concentration for a period of more than four hours is a violation of the treatment technique requirement.

2. ~~A~~ The owner of a groundwater system owner that uses an ODW-approved a department-approved alternative treatment to meet the requirements of this section by providing at least 4-log treatment of viruses before or at the first customer shall:

a. Monitor the alternative treatment in accordance with all ~~ODW-specified~~ department-specified monitoring requirements; and

b. Operate the alternative treatment in accordance with all ~~ODW-specified~~ department-specified compliance requirements necessary to achieve at least 4-log treatment of viruses.

3. Failure to meet the monitoring requirements of subsection C of this section is a violation and requires the ~~groundwater system~~ owner to provide public notification as required in 12VAC5-590-540 A 3.

D. Discontinuing compliance monitoring or treatment.

1. ~~A groundwater system~~ The owner may discontinue compliance monitoring if the ~~ODW~~ department determines and documents in writing that compliance monitoring is no longer necessary for that groundwater source. ~~Owners~~ The owner of a groundwater systems that ~~have ODW~~ has department approval to discontinue compliance monitoring shall be subject to the triggered source water monitoring requirements of 12VAC5-590-379 B 1.

2. ~~A~~ The owner of a groundwater system owner that is discontinuing compliance monitoring is still subject to the requirements of 12VAC5-590-380 G.

3. ~~Owners of waterworks with groundwater sources that have~~ The owner that has been required by the ~~commissioner~~ department to provide at least 4-log treatment of viruses shall not discontinue treatment or monitoring.

EDITOR'S NOTE: The proposed repeal of 12VAC5-590-425 was adopted at final. View the entire repealed section at [36:6 VA.R. 475-845 November 11, 2019.](#)

12VAC5-590-430. Determination of surface water influence of groundwater sources.

~~All waterworks'~~ A A groundwater sources source utilized by a waterworks ~~such as, including~~ wells, springs, and infiltration galleries, shall be evaluated by the ~~division to determine surface water influence~~ department and a determination of surface water influence shall be made by the department. The ~~waterworks~~ owner shall provide to the ~~division~~ department all necessary information to make this determination in accordance with the ~~following~~ three-step procedure described in subsection B of this section.

B. The groundwater source shall be evaluated and subjected to all the criteria in a stepwise fashion. Once the department has made a determination with regard to surface water influence has been made, it is not necessary to continue to the next step:

1. Step one— 1. Evaluation of source history, construction, and location.

~~a. The source is not surface influenced if the division has previously determined that disinfection treatment is not required (see 12VAC5 590 380 G).~~ b. The source is surface influenced under the direct influence of surface water if it has been directly associated with a biological waterborne disease outbreak such as a Giardiasis, or if it has been directly associated with chemical contamination from the surface.

~~e. For all sources consisting of a spring, infiltration gallery, wells located in Karstian geology, or not classified as either 12VAC5 590 430 A 1 or 2 the determination shall proceed to step two.~~

b. The source is under the direct influence of surface water if there are any demonstrated or known direct connections between the source to surface water via surface water bodies, sinkholes, troughs, drainage ways, or other geologic features.

c. The source is under the direct influence of surface water if a sanitary survey reveals, or there is other evidence to indicate, that surface water is directly entering the source.

d. If the department has not determined that the source is influenced by surface water based upon the criteria in subdivisions B 1 a, B 1 b, and B 1 c of this section, then the source evaluation proceeds to Step 2.

2. Step two— source physiology and geology 2. Microbiological water quality.

~~a. The source is not surface influenced if it consists of a properly constructed Class I or Class II well in non-Karstian geologic provinces of the state, with no history of turbidity fluctuations, and that have been determined by the division to be adequately treated by disinfection alone (12VAC5 590 380 G).~~

~~b. The source is surface influenced if a sanitary survey reveals that surface water may directly enter the source either through structural defects or through nearby surface water bodies, sinkholes, troughs, drainage ways, or other suspect geological features.~~

~~e. The determination for sources consisting of a spring, infiltration gallery, wells located in Karstian geology or otherwise not classified under 12VAC5 590 430 B 1 or 2 shall proceed to step three.~~

a. The owner shall collect a series of bacteriological samples directly from the source before any treatment. The specific number of samples to be collected, the

sampling frequency, and the duration of sampling shall be determined by the department.

(1) At a minimum, a series of 20 samples collected on a weekly frequency is required. Sample collection may be adjusted within the week to collect samples immediately following rainfall events, whenever possible.

(2) All bacteriological analyses shall be performed [by laboratories that have received certification by EPA or DCLS as specified] in [accordance with] 12VAC5-590-440 [by the DCLS or by a laboratory certified by the DCLS] for drinking water samples and by a test method that will yield both total coliform concentration and E. coli concentration.

(3) The department may utilize bacteriological results from source water samples collected in accordance with 12VAC5-590-379 C if the sample results cover at least a 20-week period that includes multiple significant rainfall events for this Step 2 evaluation.

b. The total coliform concentration sample results shall be evaluated as follows:

(1) If the results of the total coliform concentration samples indicate three or more samples with total coliform greater than 100 colonies/100 ml, then the source evaluation proceeds to Step 3.

(2) If the results of the total coliform concentration samples indicate a geometric mean equal to or greater than 100 colonies/100 ml, then the requirements of 12VAC5-590-380 G 2 will apply.

c. The E. coli concentration samples shall be evaluated as follows:

(1) If the results of the E. coli concentration samples indicate greater than or equal to five E. coli per 100 ml in three or more samples, then the source evaluation proceeds to Step 3.

(2) If the results of the E. coli concentration samples indicate the presence of E. coli in five or more samples, then the source evaluation proceeds to Step 3.

3. Step three— water quality 3. Additional water quality monitoring.

~~a. The source is not surface influenced if the total coliform concentrations of the raw water as measured by the multiple portion decimal dilution (MPN) method is less than 100 organisms/100 mL based on a geometric mean of 20 or more samples over a period of six months with no more than 10% of these samples exceeding 100 organisms/100 mL; and having no record or confirmed fecal coliform contamination.~~

~~b. The source is surface influenced if:~~

~~(1) The source turbidity, temperature, pH, or conductivity fluctuate following climatic events or fluctuate relative to nearby surface bodies of water, or~~

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(2) The source exhibits the presence of diatoms, rotifers, coccidia, plant debris, insect parts, or Giardia cysts as identified by particulate analysis.

a. The owner shall prepare and submit a written source water monitoring plan to the department for approval detailing additional water quality samples to be collected directly from the source before any treatment and if applicable from a nearby surface water source. The monitoring plan shall include the following:

- (1) The specific parameters to be monitored.
- (2) The monitoring frequency for each parameter.
- (3) The duration of monitoring.

b. The source water monitoring plan shall include microscopic particulate analysis (MPA).

(1) A minimum of four source water MPA tests is required, two to be conducted during a wet period and two to be conducted during a dry period. All MPA tests shall be collected at least 60 days apart.

(2) All MPA tests shall be performed by a laboratory approved by the department and shall include both Giardia lamblia and Cryptosporidium.

(3) All MPA testing and reporting of results shall be in accordance with EPA "Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA)," dated October 1992, Environmental Services Division.

c. The source water monitoring plan shall include monitoring of the physical parameters such as temperature, pH, turbidity, conductivity, and other parameters.

(1) If a surface water source is located near the groundwater source being evaluated, then monitoring of the nearby surface water source is required using the same physical parameters and frequency as the groundwater source.

(2) Records of rainfall and other climatological events shall be maintained and reported with the physical parameter results.

d. The owner shall provide the department with all of the monitoring results required in the approved monitoring plan. Results of all MPA tests shall be reported within 10 days of receipt by the owner. If any MPA result indicates the presence of Giardia lamblia or Cryptosporidium, then the owner shall notify the department within 24 hours of receipt. The results of the physical parameter monitoring shall be provided along with applicable rainfall or climatological data to the department in a summary report.

e. The additional water quality monitoring results shall be evaluated as follows:

(1) The source is under the direct influence of surface water if any single MPA test result indicates a score of equal to or greater than 20.

(2) The source is under the direct influence of surface water if any two MPA test results indicate a score of equal to or greater than 15.

(3) The source is under the direct influence of surface water if the results of physical parameter monitoring indicate a correlation between fluctuations in the groundwater source in direct response to a rainfall or other climatological event.

(4) The source is under the direct influence of surface water if the results of physical parameter monitoring indicate a direct correlation between the groundwater source being evaluated and the physical parameters of a nearby surface water source.

(5) The source is a groundwater source and is not under the direct influence of surface water if (i) all MPA test results indicate a score of equal to or less than 9, (ii) there are no fluctuations in source water monitored physical parameters in direct response to a rainfall or other climatological event, and (iii) there is no direct correlation in the monitored physical parameters between the groundwater source being evaluated and a nearby surface water source.

f. If the department has not determined that the source is under the direct influence of surface water based upon the criteria in subdivisions B 3 e (1) through B 3 e (4) of this section, and if at least one of the MPA test results indicate a score of greater than 9 but less than 15, then the department shall evaluate all available water quality monitoring data, source construction, location, geology, and any other relevant factors, and to determine that either:

(1) The source is a groundwater source and is not under the direct influence of surface water; or

(2) The source is at risk and requires continued source water monitoring as prescribed by the department.

C. If the source is subject to the requirements of subdivision B 3 of this section, then the owner shall perform the following interim measures until the department has made a final GUDI determination:

1. Provide disinfection treatment to achieve a 4-log inactivation of virus in accordance with 12VAC5-590-421 A 1 d;

2. Conduct compliance monitoring in accordance with 12VAC5-590-421 C 1;

3. If the disinfection treatment required in subdivision C 1 of this section has to be installed, then the owner shall issue a public notice in accordance with 12VAC5-590-540 A 1 advising consumers to boil the water before using it for human consumption. The boil water notice shall remain in

effect until the disinfection treatment is installed and in operation; and

4. The department may require that the owner perform additional interim measures if deemed necessary to protect public health.

D. If the total coliform concentration criteria in subdivision B 2 b of this section or the E. coli concentration criteria in subdivision B 2 c of this section are exceeded or if the department has declared the source to be GUDI, then the owner may propose mitigation measures, a plan to correct deficiencies, or both.

1. Any proposed mitigation measures or corrective actions must be detailed in a report submitted to the department for approval. The report shall be prepared by a professional engineer licensed in Virginia, a professional geologist licensed in Virginia, or other licensed professional approved by the department. The report shall include:

a. A description of the proposed mitigation or corrective action activities such as the repair of structural defects, elimination of sources of contamination in proximity to the source, implementation of source water protection measures, or other mitigation or corrective action activities.

b. Specific milestones and milestone completion dates.

c. A follow-up source water monitoring plan to be implemented upon completion of the mitigation measures or of the corrective actions.

2. If the source must remain in operation during the period of time that the mitigation or corrective action activities are implemented and evaluated, then the department may require that the owner implement the interim measures described in 12VAC5-590-395 A 3 or subdivisions C 1 through C 4 of this section.

3. A final summary report detailing the mitigation measures, the corrective actions, or both that are completed; the results of the follow-up monitoring; conclusions; recommendations; and all other supporting data shall be submitted to the department for approval.

a. The final summary report shall be prepared by a professional engineer licensed in Virginia, a professional geologist licensed in Virginia, or other licensed professional approved by the department.

b. Upon evaluation of the final report and supporting data, the department will make a GUDI determination.

E. For any source previously determined to be a groundwater source and not under the direct influence of surface water, the department may:

1. Require that the source be reevaluated in accordance with procedures contained in this section; or

2. Waive any additional reevaluation under this section.

12VAC5-590-440. Analytical methods.

A. All drinking water analyses for compliance [purposes ~~with PMCLs and SMCLs or ALs~~] shall ~~have been~~ be performed by analytical methods that are consistent with current U.S. Environmental Protection Agency EPA regulations found at 40 CFR Part 141 and 40 CFR Part 143 [~~as well as 40 CFR Part 136, if applicable~~]. Laboratories Standards for laboratories seeking certification to perform drinking water analyses ~~shall comply with all~~ are found in the Regulation for the Certification of Laboratories Analyzing Drinking Water (1VAC30-41) and [~~other applicable~~] regulations [for the Accreditation for Commercial Environmental Laboratories (1VAC30-46)] promulgated by the Department of General Services, ~~Division of Consolidated Laboratory Services [,] [and the]~~ DCLS.

B. For the purposes of determining compliance, the department will only accept results from samples that have been [collected,] handled, processed, and documented in accordance with the Regulation for the Certification of Laboratories Analyzing Drinking Water (1VAC30-41) [and regulations for the Accreditation for Commercial Environmental Laboratories (1VAC30-46)].

C. Testing for alkalinity, calcium, conductivity, ~~disinfectant residual disinfectant~~, orthophosphate, pH, silica, temperature, [bromide,] and turbidity, TOC, DOC, SUVA, and [~~UV254 UV₂₅₄~~] for compliance purposes may be performed by any person or party acceptable to the ~~commissioner~~ department in accordance with methods specified in 40 CFR Part 141.

EDITOR'S NOTE: Tables of 12VAC5-590-440 stricken in the proposed regulation are not further amended, therefore they are not published. View the tables as proposed at [36:6 VA.R. 475-845 November 11, 2019](#).

Article 3
Operation of Waterworks

12VAC5-590-450. ~~General.~~ Facility and personnel management.

Waterworks operation comprises the constant ~~operation oversight~~ and management of the facilities and personnel. Consideration ~~must shall~~ be given to such factors as ~~competent the competency of~~ personnel; ~~standards of~~ water quality, including drinking water standards; water treatment plant maintenance and cleanliness; analytical laboratory control; and the operation and maintenance of ~~plant equipment, plant records and safety~~ the facilities, including water treatment plant equipment, distribution system equipment, and piping. As the ~~degree of~~ complexity of water treatment the waterworks increases, so does the expertise and skill required to ~~produce a high quality water also increases~~ of the operating staff.

EDITOR'S NOTE: The proposed repeal of 12VAC5-590-460 was adopted in the final. View the repealed text at [36:6 VA.R. 475-845 November 11, 2019](#).

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12VAC5-590-461. Classification of waterworks, operator requirements, and operator attendance.

A. Classification of waterworks. All community and NTNC waterworks, including consecutive waterworks, fitting the classification protocol in this subsection shall be designated as classified waterworks. The [commissioner department] retains the discretion to assign the classification of the waterworks or treatment facility either higher or lower. Those community and NTNC waterworks failing to fall within one of the classifications listed in this subsection shall be designated an unclassified waterworks unless specified otherwise by the [commissioner department]. Normally, a TNC waterworks shall not be classified and shall not be required to have an operator unless the [commissioner department] determines that it is necessary to ensure satisfactory operation of the installed treatment. If a waterworks consists of multiple treatment facilities, then these facilities may be individually classified for the purpose of determining the operator requirements.

1. Class 1 means:

- a. A waterworks or a water treatment plant serving 50,000 or more persons, or having a water treatment plant capacity of 5.0 MGD or more and employing conventional filtration or chemical coagulation in combination with membrane filtration; or
- b. A waterworks designated by the [commissioner department] to be a Class 1 waterworks.

2. Class 2 means:

- a. A waterworks or a water treatment plant serving 5,000 or more persons but fewer than 50,000 persons or having a water treatment plant capacity of 0.5 MGD or more but less than 5.0 MGD, whichever range applies, and employing rapid rate conventional filtration (see 12VAC5-590-874) or chemical coagulation in combination with membrane filtration;
- b. A waterworks or a water treatment plant serving fewer than 50,000 persons or having a water treatment plant capacity of less than 5.0 MGD and employing high rate conventional filtration (see 12VAC5-590-874); or
- c. A waterworks designated by the [commissioner department] to be a Class 2 waterworks.

3. Class 3 means:

- a. A waterworks or a water treatment plant serving fewer than 5,000 persons or having a water treatment plant capacity less than 0.5 MGD, whichever is greater, and employing conventional filtration or chemical coagulation in combination with membrane filtration;
- b. A waterworks or a water treatment plant serving 5,000 or more persons or having a water treatment plant capacity of 0.5 MGD or more, whichever is greater, and employing one or more of the following: disinfection other than with hypochlorination, caustic soda feed, iron and manganese

removal, ion exchange, slow sand filtration, aeration, rechlorination other than with hypochlorination, activated carbon contactors, membrane or other filtration technologies without chemical coagulation, and fluoridation with a saturator or acid feed;

c. A waterworks or a water treatment plant employing fluoridation with other than a saturator not considered a Class 1 or Class 2 waterworks; or

d. A waterworks designated by the [commissioner department] to be a Class 3 waterworks.

4. Class 4 means:

a. A waterworks or a water treatment plant serving fewer than 5,000 persons or having a water treatment plant capacity of less than 0.5 MGD and employing one or more of the following: disinfection other than with hypochlorination, caustic soda feed, iron and manganese removal, ion exchange, slow sand filtration, aeration, rechlorination other than with hypochlorination, activated carbon contactors, membrane or other filtration technologies without chemical coagulation, and fluoridation with a saturator; or

b. A waterworks designated by the [commissioner department] to be a Class 4 waterworks.

5. Class 5 means:

a. A waterworks serving 400 or more persons that:

(1) Provides no treatment; or

(2) Employs one or more of the following treatment processes:

(a) Hypochlorination for disinfection;

(b) Corrosion control with calcite or magnesium oxide contactors or solution feed except with caustic soda; or

(c) Sequestration by solution feed.

b. A waterworks designated by the [commissioner department] to be a Class 5 waterworks.

6. Class 6 means:

a. A waterworks serving fewer than 400 persons that:

(1) Provides no treatment; or

(2) Employs one or more of the following treatment processes:

(a) Hypochlorination for disinfection;

(b) Corrosion control with calcite or magnesium oxide contactors or solution feed except with caustic soda; or

(c) Sequestration by solution feed.

b. A [~~waterwork~~ waterworks] is designated by the [commissioner department] to be a Class 6 waterworks.

B. Operator requirements. The operation of all waterworks must rest in the hands of qualified staff. The number and qualifications of persons constituting the operating staff at a waterworks depend principally upon the capacity of the

waterworks, the number of persons served by the waterworks, and the complexity of the treatment process or processes. If a classified waterworks or water treatment plant is without a required operator, then the owner shall notify the department as soon as practical but no later than 24 hours of such an occurrence.

1. The operator attendance requirements specified in subsection C of this section are a minimum to protect the health of the consumer and safety of the operating staff. The department may increase the required operating attendance when appropriate to protect human health.

2. A classified waterworks shall be operated by an operator having a valid license issued by the Commonwealth of Virginia (18VAC160-30-90) with a classification equal to or higher than the classification of the waterworks or water treatment plant being operated. (See definition of operator in 12VAC5-590-10).

3. Operators are not required at unclassified waterworks.

C. Minimum operator attendance at classified waterworks. For the purpose of this section and 12VAC5-590-570, all classified waterworks or individual water treatment plants shall maintain the minimum operator attendance as follows:

1. Class 1. The waterworks shall have a minimum of two operating staff in attendance whenever the water treatment plant is in operation; at least one of the operating staff must be an operator.

2. Class 2. The waterworks shall have a minimum of one operator in attendance whenever the water treatment plant is in operation.

3. Class 3. The waterworks employing conventional filtration or chemical coagulation in combination with membrane filtration shall have a minimum of one operator in attendance whenever the water treatment plant is in operation. All other treatment facilities may have operator attendance similar to a Class 4 waterworks.

4. Class 4. The waterworks shall be attended by an operator at least three days per week, except that water treatment plants employing membrane filters treating surface water sources or GUDI sources shall be attended by an operator daily. The attendance shall be for sufficient time to perform the necessary operations, monitoring, and maintenance.

5. Class 5 and Class 6.

a. Where no treatment is provided, the waterworks shall be attended by an operator at least twice a month.

b. When treatment is provided, the waterworks shall be attended by an operator at least once per week.

c. The attendance shall be for sufficient time to perform the necessary operations, monitoring, and maintenance.

D. Operator attendance alternatives.

1. Increased staffing attendance may be required by the [~~commissioner~~ department] on a case-by-case basis to protect public health.

2. Reduced operator attendance for Class 3 through Class 6 waterworks may be considered by the [~~commissioner~~ department] on a case-by-case basis.

3. When requiring increased operator attendance or considering reduced operator attendance the [~~commissioner~~ department] will consider the following criteria, including:

a. Operational history;

b. Type of treatment;

c. Facility capacity and hours of operation;

d. Population served;

e. Type and reliability of remote monitoring controls, alarms, and communications;

f. Reliable staff communications; and

g. Emergency response plans and procedures.

12VAC5-590-470. Waterworks appearance condition.

~~The general appearance and state of cleanliness of a waterworks can greatly influence the attitude of the public toward a utility and can actually promote public health. A community without confidence in its public water supply with often resort to the use of water from questionable or polluted sources; therefore, the~~ The waterworks must shall be maintained in a clean and orderly condition to achieve this goal.

12VAC5-590-475. Removal of wells from service.

A. Temporary inactivation.

1. A water well temporarily inactivated shall be sealed with a watertight cap or wellhead seal.

2. The well shall be maintained so that it will not be a source or channel for contamination during temporary inactivation.

3. The wellhead shall be visually inspected and observations documented to verify adequate sanitary integrity on a quarterly basis.

4. The well lot shall be maintained.

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

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controlling geological conditions that existed before the wells were constructed.

4. Casing and screen materials may be salvaged.

5. The well shall be checked from land surface to the entire depth of the well before it is sealed to ascertain freedom from obstructions that may interfere with sealing operations. Effort shall be made to remove or clear any obstacles that may prohibit sealing by grouting the complete well depth.

6. The well shall be thoroughly chlorinated before sealing.

7. Bored wells and uncased wells shall be backfilled with clean fill to the water level. A two-foot-thick bentonite grout plug shall be placed immediately above the water level. Clean fill shall be placed on top of the bentonite grout plug and brought up to at least five feet from the ground surface. The top five feet of the well casing, if present, shall be removed from the bore hole. If an open annular space is present around the well casing, then the annular space shall be filled with bentonite grout to the maximum depth possible, but less than or equal to 20 feet. A one-foot-thick cement or bentonite grout plug that completely fills the bore void space shall be placed a minimum of five feet from the ground surface. As an alternative, bored wells and uncased wells may be completely filled with concrete, sand-cement, bentonite-cement, or neat cement grout to within a minimum of five feet from the ground surface by introduction through a pipe initially extending to the bottom of the well. The pipe shall be raised but remain submerged in grout or concrete as the well is filled. The remaining space shall be filled with clean fill that is mounded a minimum of one foot above the surrounding ground surface.

8. Non-bored wells constructed in unconsolidated formations shall be completely filled with concrete, sand-cement, bentonite-cement, or neat cement grout to within a minimum of five feet from the ground surface by introduction through a pipe initially extending to the bottom of the well. The pipe shall be raised but remain submerged in grout or concrete as the well is filled. The remaining space shall be filled with clean fill that is mounded a minimum of one foot above the surrounding ground surface.

9. Wells constructed in consolidated rock formations or that penetrate zones of consolidated rock may be filled with sand or gravel opposite the zones of consolidated rock. The top of the sand or gravel fill shall be at least five feet below the top of the consolidated rock and at least 20 feet below land surface. The remainder of the well shall be filled with concrete, sand-cement, bentonite-cement, or neat cement grout to within a minimum of five feet from the ground surface by introduction through a pipe initially extending to the bottom of the well. The pipe shall be raised but remain submerged in grout or concrete as the well is filled. The remaining space shall be filled with clean fill that is

mounded a minimum of one foot above the surrounding ground surface.

10. The location of the well shall be permanently documented for future reference.

12VAC5-590-476. Reactivation of wells.

A. The owner shall notify the department of the intent to reactivate a well.

B. Before bringing the well into service, the well shall be pumped to waste (purged) for a minimum of five well volumes but for not less than 30 minutes. The purged well water shall be discharged in a manner so that it will not return to the well, directly or indirectly, during the pumping period.

C. After the well is pumped, water quality samples shall be collected. If the well has been inactive for less than one year, then two samples shall be collected at least 30 minutes apart and tested for the presence of E. coli. If the well has been inactive for one or more years, then it shall be tested for total coliform density (MPN), nitrate, and, if determined by the department, inorganics, VOCs, SOCs, and radionuclides. Satisfactory test results shall be obtained before placing the well in service.

D. A well yield and drawdown test may be required by the department before bringing the well into service. The test shall be performed in accordance with 12VAC5-590-840 H, as applicable.

E. A well may be activated for emergency use before receipt of satisfactory monitoring results, even if public health and safety are unknowns and may be at risk, as determined by the department. However, in these circumstances, a special water advisory shall be approved by the department and issued by the waterworks at the same time the well is activated.

12VAC5-590-480. Analytical laboratory control Operational control testing and monitoring.

A. ~~Analyses~~ Water analyses and tests performed at waterworks are ~~made~~ conducted for four main purposes: (i) to ensure compliance; (ii) to control water treatment plant operation; (iii) to record water treatment plant performance; and (iv) to improve plant performance, and to undertake ~~fundamental research of value to the plant and to the profession in general~~ provide information for improving water treatment plant performance. Tests designed to control operation ~~should~~ shall present evidence that:

~~1. The water has been properly prepared for each major key step in the treatment process;~~ 2. Each key process, such as mixing, coagulation, sedimentation, filtration, softening, iron and manganese removal, disinfection, and taste and odor control ~~has proceeded according to plan,~~ is effective; and

~~3. 2. The finished product is clean, is free from objectionable taste or and odor, is free from undesirable chemical characteristics, and is safe for human consumption.~~

~~B. Laboratory analyses shall conform with the most current edition available of Standard Methods for the Examination of Water and Wastewater published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation, or analytical methods approved by the division. Testing for regulatory compliance purposes shall use an EPA-approved analytical method found in 40 CFR Parts 141 and 143. Instruments used for operational control purposes must be calibrated in accordance with manufacturer instructions. Calibrations shall be documented in a manner acceptable to the department.~~

~~C. Ample laboratory space shall be provided for all required laboratory analyses as specified in 12VAC5-590-760.~~

~~1. Chemical. The analyses listed below are the minimum required. Additional testing may be required by the division.~~

~~a. Waterworks utilizing treatment for turbidity removal shall provide equipment for the analysis of pH, alkalinity, hardness, turbidity, water temperature and coagulation dosage. An electric pH meter must be provided; however, a color comparator may be used as a back-up unit. Turbidities must be determined by the use of a nephelometer. Minimum equipment for coagulation control shall be a multiple jar stirring machine.~~

~~b. Waterworks providing softening only and utilizing chemical precipitation shall provide equipment for analysis of pH utilizing an electric pH meter, alkalinity, hardness, water temperature, and chemical dosage for precipitation utilizing a multiple jar stirring machine.~~

~~c. Waterworks providing iron and manganese removal by chemical precipitation shall provide equipment for analysis of pH, alkalinity, iron, manganese, and water temperature.~~

~~d. Waterworks providing fluoridation shall provide equipment for analysis of the fluoride ion concentration and water temperature.~~

~~e. Waterworks providing chlorination or rechlorination shall provide equipment for the analysis of chlorine residual and temperature.~~

~~f. Waterworks providing iron and manganese removal by ion exchange and or softening by ion exchange shall provide equipment for the analysis of iron and manganese, or hardness.~~

~~2. Bacteriological. Only results of bacteriological analyses performed by the Division of Consolidated Laboratory Services, or by laboratories and laboratory personnel certified by the Division of Consolidated Laboratory Services will be acceptable.~~

~~a. The number and frequency of bacteriological sampling shall comply with Article I of Part II. Additional analyses may be necessary when deemed so by the division.~~

~~b. Waterworks having a rated capacity of 3.0 mgd or more or serving an equivalent of 30,000 persons or more shall provide laboratory space and equipment for routine bacteriological analysis.~~

~~e. Bacteriological sampling in accordance with Article I of Part II is required by all waterworks.~~

~~D. Required waterworks onsite laboratory analyses. The analyses listed in this subsection are the minimum required. Additional testing may be required by the department.~~

~~1. The owner of a waterworks employing chemical coagulation or lime softening in combination with any filtration treatment for turbidity removal or TOC reduction shall provide equipment for the analysis of pH, alkalinity, hardness, turbidity, water temperature, and coagulant dosage. A calibrated electric pH meter must be provided; however, a color comparator may be used as a backup unit. Turbidities must be determined by the use of a calibrated turbidimeter.~~

~~2. The owner of a waterworks employing membrane filtration without chemical coagulation or lime softening shall provide equipment for the analysis of turbidity and temperature. Turbidities shall be determined by the use of a calibrated turbidimeter.~~

~~3. The owner of a waterworks employing softening only and utilizing chemical precipitation shall provide equipment for the analysis of pH utilizing a calibrated electric pH meter, alkalinity, hardness, water temperature, and chemical dosage for precipitation utilizing a multiple jar stirring machine.~~

~~4. The owner of a waterworks employing iron and manganese removal by chemical precipitation shall provide equipment for the analysis of pH, alkalinity, iron, manganese, and water temperature.~~

~~5. The owner of a waterworks employing fluoridation shall provide equipment for the analysis of the fluoride ion concentration and water temperature.~~

~~6. The owner of a waterworks employing chlorination, rechlorination, chloramination, or rechloramination shall provide equipment for the analysis of the appropriate chlorine residual measurement and temperature.~~

~~7. The owner of a waterworks employing iron and manganese removal by ion exchange or softening by ion exchange shall provide equipment for the analysis of iron and manganese.~~

~~E. Process control instruments, monitors, gauges, and controllers, including reading, recording, and alarm features, required in Part III, Manual of Practice [12VAC590-640~~

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(12VAC5-590-640] et seq.), shall be maintained fully operational and calibrated in accordance with the manufacturer instructions.

1. The owner of a waterworks employing UV for inactivation credit shall perform UV sensor calibration checks. Calibrations and instrument checks shall be documented in a manner acceptable to the department. All UV sensors shall be calibrated with a reference UV sensor at least monthly. It is also recommended that offline and standby sensors be calibrated at the same time. At least one reference sensor for calibration of online sensors shall be provided. The reference UV sensor shall be calibrated at least yearly at a qualified facility, usually the manufacturer. Ultraviolet transmittance (UVT) analyzer calibration is required when used as a control instrument. The UVT analyzer shall be calibrated at least weekly by comparing online measurements to a benchtop spectrophotometer that is calibrated in accordance with manufacturer instructions. Instead of an online UVT analyzer, a benchtop spectrophotometer may be utilized to determine UV transmittance at least every four hours.

2. The owner of a waterworks employing ozone for inactivation credit shall perform calibration checks on continuous, online ozone residual monitors at least [weekly during peak hourly flow]. Inactivation credits for a multiple chamber contactor shall be based on only the chambers that have a measured ozone residual greater than 0.02 mg/L or higher, depending on residual analysis instrumentation.

12VAC5-590-490. Adequate treatment.

A. Adequate treatment is any one or any combination of the controlled processes of coagulation, sedimentation, absorption, filtration, disinfection, or other processes that produce a water consistently meeting the requirements of this chapter. The concept of adequate treatment also includes processes that are appropriate to (i) the source of supply water; (ii) waterworks that are of adequate capacity to meet maximum demands without creating health hazards; and that are located, designed, and constructed to eliminate or prevent ~~cross connections~~ cross-connections; and (iii) the conscientious operation by well-trained and competent personnel whose qualifications are commensurate with the responsibilities of the position and acceptable to the ~~division~~ department.

B. ~~All~~ A waterworks shall provide adequate treatment and ~~pure~~ when required and in accordance with 12VAC5-590-680 to ensure the production of potable water.

12VAC5-590-500. Disinfection by chlorination criteria, determination of CT, disinfection profiles, and disinfection benchmarks for Giardia and virus inactivation.

A. ~~All~~ water supplies derived from A waterworks utilizing surface water sources or GUDI sources, in whole or in part, shall be disinfected in accordance with subsection C of this section and 12VAC5-590-1000 until June 29, 1993. It is

~~recommended that a chlorine residual be maintained. Beginning June 29, 1993, every owner of a waterworks shall comply with the disinfection requirements of 12VAC5-590-420.~~

~~B. Owners of waterworks utilizing surface waters as a water supply shall practice prechlorination. The requirement for prechlorination may be waived by the commissioner when warranted.~~

~~C. Owners of waterworks utilizing groundwater as a water supply that has been determined by the commissioner to be under the direct influence of surface water, as provided in 12VAC5-590-430, will be required to disinfect. If the commissioner determines that the groundwater supply is surface influenced, the owner shall provide disinfection during the interim before filtration is installed in accordance with 12VAC5-590-420 B 2 f. If filtration is installed prior to June 29, 1993, the owner shall comply with the disinfection requirements of 12VAC5-590-1000 until June 29, 1993. By June 29, 1993, all owners of waterworks using a groundwater source determined to be under the direct influence of surface water shall comply with the disinfection requirements of 12VAC5-590-420.~~

~~D. Owners~~ B. The owner of a groundwater systems system subject to the requirements of 12VAC5-590-421 A 1 d shall provide a primary disinfection treatment by means of one of the following:

1. A residual disinfectant residual concentration (C) and contact time (T) to achieve a 4-log removal or inactivation of viruses. CT shall be calculated in accordance with ~~Appendix L~~ subsections C and D of this section, which ~~contains~~ contain information on calculation methods and contact tank baffling factors.

2. UV treatment to achieve a 4-log removal or inactivation of viruses. Log inactivation shall be determined in accordance with 12VAC5-590-401 E 7 c. A secondary disinfection residual in the distribution system may be required by the department.

E. Disinfection profile data and disinfection benchmark data:

1. The owner of any waterworks that has disinfection profile data shall retain this data in graphic form, as a spreadsheet, or in some other format acceptable to the commissioner for review as part of sanitary surveys conducted by the commissioner. ~~Appendix L lists the procedure for developing a disinfection profile.~~

2. Disinfection benchmarking:

a. The owner of any waterworks that has developed a disinfection profile and that decides to make a significant change to its disinfection practice shall consult with the commissioner prior to making such change. Significant changes to disinfection practice are:

(1) Changes to the point of disinfection;

- ~~(2) Changes to the disinfectants used in the treatment plant;~~
- ~~(3) Changes to the disinfection process; and~~
- ~~(4) Any other modification identified by the commissioner.~~

~~b. The owner of any waterworks that is modifying its disinfection practice shall calculate its disinfection benchmark using the following procedure:~~

~~(1) For each year of profiling data collected, the owner shall determine the lowest average monthly Giardia lamblia inactivation in each year of profiling data. The owner shall determine the average Giardia lamblia inactivation for each calendar month for each year of profiling data by dividing the sum of daily (or weekly) Giardia lamblia inactivation by the number of values calculated for that month.~~

~~(2) The disinfection benchmark is the lowest monthly average value (for waterworks with one year of profiling data) or average of lowest monthly average values (for waterworks with more than one year of profiling data) of the monthly logs of Giardia lamblia inactivation in each year of profiling data.~~

~~(3) The owner of a waterworks that uses either chloramines or ozone for primary disinfection shall also calculate the disinfection benchmark for viruses using a method approved by the commissioner.~~

~~e. The owner shall submit the following information to the commissioner as part of the waterworks' consultation process:~~

- ~~(1) A description of the proposed change;~~
- ~~(2) The disinfection profile for Giardia lamblia (and, if necessary, viruses) and benchmark listed in subdivision E 2 b of this section;~~
- ~~(3) An analysis of how the proposed change will affect the current levels of disinfection; and~~
- ~~(4) Any additional information to justify the change.~~

C. Disinfection criteria.

1. An owner of a waterworks utilizing surface water sources, in whole or in part, or GUDI sources shall provide a minimum 3-log (99.9%) removal of Giardia cysts and a 4-log (99.99%) removal of viruses, respectively.

2. Additional inactivation levels that must be achieved by disinfection shall be in accordance with Table 500.1 for waterworks employing the filtration processes listed.

EDITOR'S NOTE: Tables 500.1 through 500.15 are not further amended from the proposed regulation, therefore they are not published. View the tables as proposed at [36:6 VA.R. 475-845 November 11, 2019](#).

D. A disinfection profile shall be developed in accordance with the procedures in subdivisions D 1, D 2, and D 3.

1. The owner shall monitor at least weekly for a period of 12 consecutive months to determine the total log inactivation for Giardia lamblia and viruses. If an owner monitors more frequently, then the monitoring frequency shall be evenly spaced. An owner of a waterworks that operates for fewer than 12 months per year shall monitor weekly during the period of operation.

2. The owner of a waterworks with a single point of disinfectant application before the entrance to the distribution system or with more than one point of disinfectant application shall conduct the monitoring in subdivisions D 2 a through D 2 e of this section.

a. For a waterworks using a disinfectant other than UV, the temperature of the disinfected water shall be measured at each residual disinfectant concentration sampling point during peak hourly flow or at an alternative location approved by the department.

b. For a waterworks using chlorine, the pH of the disinfected water shall be measured at each chlorine residual disinfectant concentration sampling point during peak hourly flow or at an alternative location approved by the department.

c. The residual disinfectant concentration (C) of the water before or at the first customer and before each additional point of disinfectant application shall be measured at peak hourly flow.

d. The disinfectant contact times (T) of the water before or at the first customer and before each additional point of disinfectant application shall be determined during peak hourly flow. The disinfectant contact time to be used for calculating CT is T₁₀, which is the detention time at which 90% of the water passing through a unit is retained within that unit. T₁₀ shall be determined either by calculations that involve the theoretical hydraulic detention time and baffling factors that account for the degree of short-circuiting that might be expected through any given unit or by tracer studies. The baffling factors listed in Table 500.15 shall be used in determining contact time if tracer studies are not performed.

e. Inactivation credits for ozone contactors will be based on only the chambers that have a measured ozone residual. A minimum of two dedicated online monitors per ozone contactor shall be installed at locations suited to the CT calculation method used. Ozone residual levels shall be monitored continuously and recorded. Methods for computing log inactivation of Giardia lamblia and virus shall be approved by the department. Tracer studies shall be required to verify T₁₀ values before receiving inactivation credit.

3. Instead of conducting new monitoring under subdivision D 2 of this section, an owner may elect to meet the requirements of subdivision D 3 a or D 3 b of this section.

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a. The owner who has at least one year of existing data that are substantially equivalent to data collected under the provisions of subdivision D 3 of this section shall use these data to develop disinfection profiles if the owner has neither made a significant change to the treatment practice nor changed sources since the data were collected. The owner may develop a disinfection profile using up to three years of existing data.

b. The owner may use a disinfection profile developed previously in accordance with the procedures in subdivisions D 1, D 2, and D 3 of this section, if the owner has neither made a change to the treatment practice nor changed sources since the profile was developed. An owner that has not developed a virus profile shall develop a virus disinfection profile using the same monitoring data on which the Giardia lamblia profile is based.

E. The owner shall calculate the total inactivation ratio for Giardia lamblia and viruses as specified in subdivisions E 1 through E 4 of this subsection based on $CT_{99.9}$ (3-log) values using the appropriate values in Tables 500.2 through 500.14. Note that the 3-log values in the tables for Giardia lamblia also indicate that a 4-log virus inactivation can be achieved. pH and temperature values between the indicated values in Tables 500.2 through 500.14 shall be determined by linear interpolation, or the CT value at the lower temperature and at the higher pH shall be used. All parameters necessary to determine the total inactivation ratio shall be monitored during peak hourly flow.

1. The owner using only one point of disinfectant application shall determine the total inactivation ratio for the disinfection segment based on either of the following methods:

a. Determine one inactivation ratio ($CT_{calc}/CT_{99.9}$) before or at the first customer during peak hourly flow.

b. Determine successive $CT_{calc}/CT_{99.9}$ values, representing sequential inactivation ratios, between the point of disinfectant application and a point before or at the first customer during peak hourly flow. The owner shall calculate the total inactivation ratio by determining ($CT_{calc}/CT_{99.9}$) for each sequence and then adding the ($CT_{calc}/CT_{99.9}$) values together to determine total inactivation ($\sum (CT_{calc}/CT_{99.9})$).

2. The owner using more than one point of disinfectant application before the first customer shall determine the CT value of each disinfection segment immediately before the next point of disinfectant application, or for the final segment before or at the first customer, during peak hourly flow. The ($CT_{calc}/CT_{99.9}$) value of each segment and ($\sum (CT_{calc}/CT_{99.9})$) shall be calculated using the method in subdivision E 1 a or E 1 b of this subsection.

3. The owner shall determine the total logs of inactivation of Giardia lamblia by multiplying the value calculated in subdivision E 1 a or E 1 b of this subsection by 3.0.

4. The owner shall determine the total logs of inactivation of viruses by multiplying the value calculated in subdivision E 1 a or E 1 b of this subsection by 4.0.

F. A disinfection benchmark shall be calculated following the procedures in subdivisions F 1, F 2, and F 3 of this subsection.

1. For each year of profiling data collected and calculated, an owner shall determine the lowest mean monthly level of both Giardia lamblia and virus inactivation. The owner shall determine the mean Giardia lamblia and virus inactivation for each calendar month for each year of profiling data by dividing the sum of daily or weekly Giardia lamblia and virus log inactivation by the number of values calculated for that month.

2. The disinfection benchmark is the lowest monthly mean value (for waterworks with one year of profiling data) or the mean of the lowest monthly mean values (for waterworks with more than one year of profiling data) of Giardia lamblia and virus log inactivation in each year of profiling data.

3. The owner of a waterworks using chloramines, ozone, or chlorine dioxide for primary disinfection shall calculate the disinfection benchmark for viruses from the data collected in the same manner used to calculate the Giardia lamblia disinfection benchmark.

G. The owner shall retain the disinfection profile in graphic form, as a spreadsheet or in some other format acceptable to the department for evaluation as part of sanitary surveys conducted by the department.

H. Before making a significant change to the waterworks disinfection practice, the owner shall review the disinfection benchmark and consult with the department.

1. Significant changes to disinfection practice are (i) changes to the point of disinfectant application, (ii) changes to the disinfectants used in the treatment plant, (iii) changes to the disinfection process, and (iv) any other modification identified by the department.

2. The owner shall submit the following information to the department as part of the consultation process: (i) a description of the proposed change; (ii) the disinfection profile and benchmarks established for Giardia lamblia and, if necessary, viruses; (iii) an analysis of how the proposed change will affect the current levels of disinfection; and (iv) any additional information to justify the change.

12VAC5-590-505. Emergency management plan for extended power outages.

A. ~~Each~~ The owner of a community waterworks (including consecutive waterworks) shall develop and maintain an emergency management plan for extended power outages.

B. ~~Each~~ The plan shall be kept current and shall be kept retained at a location that is readily accessible to the owner in the event of an extended power outage.

~~C. Each~~ The owner of a community waterworks shall certify in writing to the appropriate field office of the Office of Drinking Water in the Department of Health department that the waterworks plan has been completed such plan.

~~D. Each~~ The plan shall address the following where applicable:

1. Identification of the criteria (events, duration of power outage, etc.) that will initiate activation of the plan.
2. How the ~~community waterworks owner~~ will respond to an extended power outage ~~for lasting~~ a minimum of five days.
3. Procedures for obtaining and distributing potable water in the event that the primary source(s) becomes sources become unavailable.
4. Notification procedures and example notices to the public and media (local radio stations, television stations, local newspapers, etc.) including conservation notices and boil water advisories.
5. Emergency disinfection procedures for the distribution system(s) system and storage tank(s) tank.
6. The ~~telephone number of~~ point of contact for the appropriate field office of the Office of Drinking Water in the Virginia Department of Health department.
7. The ~~names and telephone numbers of~~ points of contact for the waterworks personnel who should be notified.
8. The ~~name and telephone number of~~ point of contact for the Local Emergency Coordinator designated by the Virginia Department of Emergency Management.
9. The ~~names and telephone numbers of~~ points of contact for the electric power, natural gas, and propane distributors, or other energy supplier to the waterworks.

12VAC5-590-510. Acceptable operating practices.

A. This section is not intended to be all inclusive but reflects the concern for the public health significance of certain practices related to ~~treatment plant~~ waterworks operation.

~~B. Waterworks designed for bacteria and turbidity removal shall not be operated without adequate chemical coagulation as determined by the division.~~

~~C. Waterworks utilizing filtration in the treatment process shall not vary the rate of filtration through any single filtering unit above its design capacity unless approved by the division.~~

~~D. Filtering units equipped with rewash facilities shall not be returned to service after backwashing until being thoroughly rewash.~~

B. Filter operation.

1. Gravity flow granular media filters designed for pathogen and turbidity removal shall not be operated without adequate chemical coagulation as determined by the department.

2. A waterworks utilizing gravity flow granular media filtration shall not vary the rate of filtration through any single filter above its design capacity unless approved by the department.

3. Gravity flow granular media filters equipped with filter-to-waste facilities shall not be returned to service after backwashing until a thorough rinsing period has occurred so that the filter-to-waste water has a turbidity less than or equal to 0.3 NTU.

4. All MF and UF technologies employed for pathogen removal shall demonstrate removal efficiency equal to the removal (log inactivation) credit given in Table 500.1. A direct integrity test acceptable to the department shall be conducted and include the following:

- a. The direct integrity test capability shall be provided for each filter unit; and
- b. The direct integrity test shall be conducted at least daily for each day the filtration unit is in operation.

~~E. C.~~ All waterworks shall provide a minimum working pressure of 20 ~~psi~~ psi-gauge (psig) at all service connections.

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

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

12VAC5-590-515. Use of chemicals.

A. All chemicals used in water treatment shall be compliant with [~~NSF/ANSI Standard 60-2017~~ NSF/ANSI/CAN Standard 60-2020]. These chemicals shall include the following:

1. Corrosion and scale inhibitors;
2. Coagulants and flocculants;
3. Disinfectants and oxidants;
4. pH adjustment chemicals;
5. Regenerating agents; and
6. Membrane cleaning compounds.

B. Chemical containers shall bear the proper certification mark and identification consistent with the Safety Data Sheet for the chemical used.

C. The owner shall maintain documentation verifying that all chemicals meet [~~NSF/ANSI Standard 60-2017~~ NSF/ANSI/CAN Standard 60-2020] certification requirements.

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12VAC5-590-520. Waterworks expansion capacity.

~~A. At such time as the water production of a community waterworks reaches 80% of the rated capacity of the waterworks for any consecutive three month period, the owner shall cause plans and specifications to be developed for expansion of the waterworks to include a schedule for construction; however, if it can be shown by the owner that growth within the service area is limited and will not exceed the rated capacity of the waterworks or if unusual transient conditions caused production to reach the 80% level, preparation of plans and specifications for expansion will no longer be required.~~

~~B. All waterworks shall provide metering of total water production.~~

A. When the water production of a community waterworks reaches 80% of the permitted capacity for any consecutive three-month period, the owner shall prepare and submit a written plan within 30 days of notification by the department to address capacity needs. This plan shall be evaluated by the department and corrective actions shall be approved by the [commissioner department].

B. The [commissioner department] may require the owner to reevaluate the source water capacity of a well by conducting a yield and drawdown test in accordance with 12VAC5-590-840 H when the well has demonstrated declining yield.

12VAC5-590-530. Reporting.

A. The results of ~~any~~ all required monitoring activity shall be reported by the owner ~~[(or their or) the owner's authorized [agent] agent]~~ to the ODW department no later than (i) the 10th day of the month following the month during which the test results were received, or (ii) the 10th day following the end of the monitoring period, whichever is shorter, unless stipulated otherwise by the commissioner department. The results of any required monitoring activity shall be reported by the owner or the owner's authorized agent in a format and method prescribed by the commissioner department. For routine compliance samples analyzed for contaminants listed in Tables 340.1 through 340.7, the owner shall request that the certified analytical laboratory performing the analyses provide the data electronically to the department as per the requirements of this section.

B. It shall be the duty and responsibility of an owner to report to the ~~ODW department~~ in the most expeditious manner (usually by telephone) under the following circumstances. If it is done by telephone a confirming report shall be mailed for circumstances identified in subsections C through J of this section. The owner shall contact the department for the acceptable notification method. The official laboratory data report shall be sent to the department as soon as practical.

~~1. C. Bacteriological examination reporting.~~

~~a. 1. When a bacteriological examination shows that samples are required (see 12VAC5-590-380 D), the owner shall collect the repeat samples within 24 hours of being notified of the positive result and shall report the repeat sample results to the appropriate ODW field office department.~~

~~b. 2. Microbial contamination, as evidenced by one or more routine distribution system water samples indicating the presence of E. coli or waterborne pathogens, shall be reported by the owner to the appropriate ODW field office department by the end of the day when the owner was notified of the test result, unless ODW's field office the department is closed, in which case ODW the department shall be notified before the end of the next business day.~~

~~e. 3. An E. coli PMCL violation shall be reported by the owner to the appropriate ODW field office department by the end of the day when the owner was notified of the test result, unless the ODW field office department is closed, in which case ODW the department shall be notified before the end of the next business day.~~

~~4. Any 4. The owner who has failed to comply with the monitoring requirements of 12VAC5-590-370 shall report the monitoring violation to the appropriate ODW field office department in writing within 10 days after the owner discovers the violation and shall notify the public in accordance with 12VAC5-590-540 A 3.~~

~~2. When the daily average of turbidity testing exceeds 5.0 NTU a report shall be made within 48 hours~~

D. Turbidity reporting. For a waterworks required to filter for pathogen and turbidity removal, a report shall be made within 24 hours to the department if the filtered water turbidity measurement exceeds the following concentrations based on the filtration treatment type:

1. Conventional filtration -- one NTU.

2. Diatomaceous earth filtration -- five NTU.

3. Slow sand filtration -- five NTU.

4. Membrane, bag and cartridge filtration -- one NTU.

E. PMCL exceedance.

~~3. 1. When a PMCL of an inorganic or organic chemical is exceeded for a single sample the owner shall report same the exceedance within seven days. If any one a sample result would cause the compliance average to be exceeded, then the owner shall report same in the sample result, in context with the compliance average, to the department within 48 hours.~~

~~4. 2. When the average value of the samples collected pursuant to 12VAC5-590-410 12VAC5-590-382 and 12VAC5-590-383 exceeds the PMCL of any organic an inorganic or inorganic organic chemical, the owner shall~~

report ~~same~~ the exceedance to the department within 48 hours.

~~5.~~ 3. When the ~~maximum contaminant level~~ PMCL for ~~radionuclides~~ a radionuclide has been exceeded as determined by Table ~~2.5~~ 340.4, the results shall be reported to the department within 48 hours.

~~6.~~ F. The owner shall report to the ~~district engineer~~ department within 48 hours of the failure to comply with the monitoring and sanitary survey requirements of this chapter.

~~7.~~ G. The owner shall report to the ~~district engineer~~ department within 48 hours of the failure to comply with the requirements of ~~any~~ the schedule prescribed pursuant to a variance or exemption.

~~8.~~ H. The owner shall report a Tier 1 violation or situation, as described in 12VAC5-590-540 A 1, to the ~~district engineer~~ department as soon as practical, but no later than 24 hours after the owner learns of the Tier 1 violation or situation. At the same time the report is made, the owner shall consult with the ~~field office~~ department to determine the need for any additional actions to address the violation or situation.

~~9.~~ The owner shall report a violation of treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit, as described in 12VAC5-590-420 B 2 a (2), B 2 a (3), B 2 b (2), B 2 c (2), and B 2 d, to the district engineer as soon as practical, but no later than 24 hours after the owner learns of the violation. At the same time the report is made, the owner shall consult with the field office to determine the need for any additional actions to address the violation or situation.

~~C.~~ I. Reporting requirements for coliform treatment technique violations.

~~1.~~ Any ~~The owner who that~~ The owner who that has violated the treatment technique required in 12VAC5-590-392 B shall report the violation to the ~~appropriate ODW field office~~ department no later than the end of the next business day after learning of the violation and shall notify the public in accordance with 12VAC5-590-540 A 2.

~~2.~~ Any ~~The owner who that~~ The owner who that is required to conduct an assessment under 12VAC5-590-392 C shall submit the assessment report within 30 days to the ~~appropriate ODW field office~~ department.

~~3.~~ The owner shall notify the ~~appropriate ODW field office~~ department in writing after each scheduled corrective action is completed for corrections that were not completed by the time of submission of the assessment form under the requirements of 12VAC5-590-392 C.

~~D.~~ J. The owner of a seasonal waterworks shall submit the certification of completion of the approved start-up procedure ~~to on a form approved by the commissioner prior to~~ department before serving water.

EDITOR'S NOTE: Text stricken in 12VAC5-590-530 E through L in the proposed regulation has not been further amended, therefore it is not published. See proposed stricken text at [36:6 VA.R. 475-845 November 11, 2019](#).

~~M.~~ K. Reporting requirements for groundwater systems. ~~Owners of groundwater systems~~ The owner shall report the following information in accordance with subsection A of this section:;

~~1. Owners of groundwater systems~~ The owner conducting compliance monitoring as required by 12VAC5-590-421 C shall notify the ~~ODW department~~ as soon as possible any time practical, but no later than the next business day, whenever the groundwater system fails to meet the ~~ODW specified~~ department-specified minimum residual disinfectant concentration for more than four hours, ~~but no later than the next business day.~~

~~2. Owners of groundwater systems that are~~ The owner required to conduct corrective action as described in 12VAC5-590-421 A shall notify the ~~ODW department~~ department within 30 days of completion of corrective action.

~~3. Owners of groundwater systems~~ The owner subject to the source water monitoring requirements of 12VAC5-590-379 that do not conduct this monitoring under the provision of 12VAC5-590-380 E, shall provide documentation to the ~~ODW department~~ department within 30 days of the collection that the sample met the criteria defined in 12VAC5-590-380 E.

~~N.~~ Information to be included on the operation monthly report shall be determined by the commissioner for each waterworks on an individual basis. Appendix G contains suggested monthly operation report requirements.

12VAC5-590-531. Reporting requirements for filtration treatment and disinfection treatment.

A. The owner of a waterworks using a surface water source, a GUDI source, or both shall report monthly to the department the following specified information.

1. Turbidity measurements as required by 12VAC5-590-376 B shall be reported within 10 days after the end of each month the waterworks serves water to the public. Information that shall be reported includes:

a. The total number of filtered water turbidity measurements collected during the month.

b. The number and percentage of filtered water turbidity measurements collected during the month that are less than or equal to the turbidity limits specified in 12VAC5-590-395 A 2 b for the filtration technology being used.

c. The owner of a waterworks that uses lime softening may apply to the department for alternative exceedance levels for the levels specified in subdivision A 1 b of this section if the owner can demonstrate that higher turbidity levels in

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individual filters are due to lime carryover only and not due to degraded filter performance.

2. The owner of a waterworks with combined distribution systems serving at least 10,000 persons using a surface water source, a GUDI source, or both that provides conventional filtration treatment or direct filtration shall report monthly to the department the information specified in subdivisions A 2 a and A 2 b of this section. Also, the owner of a waterworks that provides filtration approved under 12VAC5-590-395 A 2 b shall report monthly to the department the information specified in subdivisions A 2 a and A 2 b of this section.

a. Turbidity measurements collected to meet 12VAC5-590-395 A 2 b shall be reported within 10 days after the end of each month the waterworks serves water to the public. Information that shall be reported includes:

(1) The total number of filtered water turbidity measurements collected during the month.

(2) The number and percentage of filtered water turbidity measurements collected during the month that are less than or equal to the turbidity limits specified in 12VAC5-590-395 A 2 b.

(3) The date and value of any turbidity measurements collected during the month that exceed 1.0 NTU for waterworks using conventional filtration treatment or direct filtration or that exceed the maximum level set by the department under 12VAC5-590-395 A 2 b.

b. The owner shall maintain the results of individual filter monitoring collected under 12VAC5-590-376 B for at least three years. The owner shall report the completion of individual filter turbidity monitoring under 12VAC5-590-376 B within 10 days after the end of each month the waterworks serves water to the public. The owner shall report individual filter turbidity measurement results collected under 12VAC5-590-376 B within 10 days after the end of each month the waterworks serves water to the public only if measurements demonstrate one or more of the conditions in 12VAC5-590-395 A 2 b. The owner of a waterworks that uses lime softening may apply to the department for alternative exceedance levels for the levels specified in 12VAC5-590-395 A 2 b if the owner can demonstrate that higher turbidity levels in individual filters are due to lime carryover only and not due to degraded filter performance.

3. For a waterworks with combined distribution systems serving 10,000 or more persons.

a. For an individual filter that has a measured turbidity level of greater than 1.0 NTU in two consecutive measurements collected 15 minutes apart, the owner shall report the filter number, the turbidity measurement, and the dates on which the exceedances occurred. In addition, the owner shall either produce a filter profile for the filter within seven days of the exceedance if the owner is not able to identify an obvious reason for the abnormal filter

performance and report that the profile has been produced or report the obvious reason for the exceedance.

b. For an individual filter that has a measured turbidity level of greater than 0.5 NTU in two consecutive measurements collected 15 minutes apart at the end of the first four hours of continuous filter operation after the filter has been backwashed or otherwise taken offline, the owner shall report the filter number, the turbidity, and the dates on which the exceedances occurred. In addition, the owner shall either produce a filter profile for the filter within seven days of the exceedance if the owner is not able to identify an obvious reason for the abnormal filter performance and report that the profile has been produced or report the obvious reason for the exceedance.

c. For an individual filter that has a measured turbidity level of greater than 1.0 NTU in two consecutive measurements collected 15 minutes apart at any time in each of three consecutive months, the owner shall report the filter number, the turbidity measurement, and the dates on which the exceedances occurred. In addition, the waterworks shall conduct a self-assessment of the filter within 14 days of the exceedances and report that the self-assessment was conducted. The self-assessment shall consist of at least the following components: assessment of filter performance, development of a filter profile, identification and prioritization of factors limiting filter performance, assessment of the applicability of corrections, and preparation of a filter self-assessment report.

d. For an individual filter that has a measured turbidity level of greater than 2.0 NTU in two consecutive measurements collected 15 minutes apart at any time in each of two consecutive months, the owner shall report the filter number, the turbidity measurement, and the dates on which the exceedances occurred. In addition, the owner shall arrange for the conduct of a comprehensive performance evaluation (CPE) by the department or a third party approved by the department no later than 30 days following the exceedance and have the evaluation completed and submitted to the department no later than 90 days following the exceedance. A CPE means a thorough evaluation and analysis of a water treatment plant's performance-based capabilities and associated administrative, operational, and maintenance practices. A CPE is conducted to identify factors that may be adversely impacting a water treatment plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements.

4. For a waterworks with combined distribution systems serving fewer than 10,000 persons.

a. For an individual filter or the turbidity of CFE for waterworks with two filters that monitor CFE instead of individual filters that has a measured turbidity level of greater than 1.0 NTU in two consecutive measurements

collected 15 minutes apart, the owner shall report the filter numbers, the turbidity measurements, and the dates on which the exceedances occurred and the cause (if known) for the exceedances.

b. For an individual filter or the turbidity of CFE for a waterworks with two filters that monitor CFE instead of individual filters that has a measured turbidity level of greater than 1.0 NTU in two consecutive measurements collected 15 minutes apart at any time in each of three consecutive months, the owner shall conduct a self-assessment of the filters within 14 days of the day the filter exceeded 1.0 NTU unless a CPE as specified in subdivision A 4 c of this section was required. A waterworks with two filters that monitor the CFE instead of individual filters shall conduct a self-assessment on both filters. The self-assessment shall be reported to the department and consist of at least the following components: (i) date the self-assessment was triggered, (ii) date the self-assessment was completed, (iii) an assessment of filter performance, (iv) development of a filter profile, (v) identification and prioritization of factors limiting filter performance, (vi) assessment of the applicability of corrections, and (vii) preparation of a filter self-assessment report. The self-assessment shall be submitted within 10 days after the end of the month or 14 days after the self-assessment was triggered only if it was triggered during the last four days of the month.

c. For an individual filter or the turbidity of CFE for a waterworks with two filters that monitor CFE instead of individual filters that has a measured turbidity level of greater than 2.0 NTU in two consecutive measurements collected 15 minutes apart at any time in each of two consecutive months, the owner shall arrange for a CPE, as defined in subdivision A 3 d of this section, by the department or a third party approved by the department no later than 60 days following the day the filter exceeded 2.0 NTU in two consecutive months. The owner shall report within 10 days after the end of the month that a CPE is required and the date that it was triggered. If a CPE has been completed by the department or a third party approved by the department within the 12 prior months or the owner and the department are jointly participating in an ongoing comprehensive technical assistance project at the waterworks, then a new CPE is not required. If conducted, a CPE shall be completed and submitted to the department no later than 120 days following the day the filter exceeded 2.0 NTU in two consecutive measurements for the second straight month.

5. Reporting Cryptosporidium monitoring results.

a. The owner shall report results from the source water monitoring required in 12VAC5-590-401 B no later than 10 days after the end of the first month following the month when the sample is collected.

b. The owner shall report the following data elements for each Cryptosporidium analysis:

- (1) Public water system (PWS) identification number;
- (2) Facility identification number;
- (3) Sample collection date;
- (4) Sample type (field or matrix spike);
- (5) Sample volume filtered (L), to nearest 1/4 L;
- (6) Was 100% of filtered volume examined; and
- (7) Number of oocysts counted.

c. Quality control for Cryptosporidium analysis:

(1) For matrix spike samples, the owner shall also report the sample volume spiked and the estimated number of oocysts spiked. These data are not required for field samples.

(2) For samples in which less than 10 L is filtered or less than 100% of the sample volume is examined, the owner shall also report the number of filters used and the packed pellet volume.

(3) For samples in which less than 100% of the sample volume is examined, the owner shall also report the volume of re-suspended concentrate and volume of this re-suspension processed through immunomagnetic separation.

d. The owner shall report the following data elements for each E. coli analysis:

- (1) PWS identification number;
- (2) Facility identification number;
- (3) Sample collection date;
- (4) Analytical method number;
- (5) Method type;
- (6) Source water type (flowing stream, lake or reservoir, GUDI source);
- (7) E. coli/100 mL; and
- (8) Turbidity.

e. The owner of a waterworks serving fewer than 10,000 persons and not required to monitor for turbidity under 12VAC5-590-401 B is not required to report turbidity with their E. coli results.

B. Reporting of requirements for enhanced treatment for Cryptosporidium.

1. The owner shall report sampling schedules under 12VAC5-590-401 B and source water monitoring results under 12VAC5-590-531 A 5, unless the owner notifies the department that the owner will not conduct source water monitoring due to meeting the criteria of 12VAC5-590-401 B 4.

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2. The owner shall report the use of uncovered finished water storage facilities to the department as described in 12VAC5-590-415.

3. The owner of a waterworks that provide filtration shall report their Cryptosporidium bin classification as described in 12VAC5-590-401 D.

4. The owner shall report disinfection profiles and benchmarks to the department as described in 12VAC5-590-401 C 1 and C 2 before making a significant change in disinfection practice.

5. The owner shall report to the department in accordance with Table 531.1 for any microbial toolbox options used to comply with treatment requirements under 12VAC5-590-401 D 2. Alternatively, the department may approve a waterworks to certify operation within required parameters for treatment credit rather than reporting monthly operational data for toolbox options.

EDITOR'S NOTE: Table 531.1 is not further amended from the proposed regulation, therefore it is not published. View the Table 531.14 as proposed at [36:6 VA.R. 475-845 November 11, 2019](#).

C. Disinfection information specified in this subsection shall be reported to the department within 10 days after the end of each month the waterworks serves water to the public. Information that shall be reported includes:

1. For each day, the lowest measurement of residual disinfectant concentration in mg/L in water entering the distribution system.

2. The date and duration of each period when the residual disinfectant concentration in water entering the distribution system fell below 0.2 mg/L and when the department was notified of the occurrence.

3. The following information on the samples collected in the distribution system in conjunction with total coliform monitoring pursuant to 12VAC5-590-395 A 2.

a. Number of instances where the residual disinfectant concentration is measured;

b. Number of instances where the residual disinfectant concentration is not measured but HPC is measured;

c. Number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured;

d. Number of instances where no residual disinfectant concentration is detected and where HPC is greater than 500/mL;

e. Number of instances where the residual disinfectant concentration is not measured and HPC is greater than 500/mL; and

f. For the current and previous month the waterworks serves water to the public, the value of "V," in percent, in the following formula:

$$V = \left[\frac{(c+d+e)}{(a+b)} \right] * 100$$

a = the value in subdivision C 3 a of this section.

b = the value in subdivision C 3 b of this section.

c = the value in subdivision C 3 c of this section.

d = the value in subdivision C 3 d of this section.

e = the value in subdivision C 3 e of this section.

g. The department may determine that based on site-specific considerations if an owner has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions and the waterworks is providing adequate disinfection in the distribution system, the HPC compliance requirements of subdivisions C 3 a through C 3 f of this section do not apply.

4. The owner need not report the data listed in subdivision C 1 of this section if all data listed in subdivisions C 1, C 2, and C 3 of this section remain on file at the waterworks and the department determines that the owner has submitted all of the information required by subdivisions C 1, C 2, and C 3 of this section for the last 12 months.

5. A waterworks using disinfection oxidants other than free chlorine after filtration shall continue to record disinfection profile measurements and incorporate log inactivation computations into their monthly operation reports, as described in 12VAC5-590-570.

D. Reporting requirements for DBPs. The owner shall report the following information to the department in accordance with 12VAC5-590-530. The department may choose to perform calculations and determine whether the PMCL was violated, instead of having the owner report that information.

1. Locational running annual average (LRAA) reporting:

a. The owner shall report the following information for each monitoring location to the department:

(1) Number of samples collected during the last quarter.

(2) Date and results of each sample collected during the last quarter.

(3) Arithmetic average of quarterly results for the last four quarters for each LRAA, beginning at the end of the fourth calendar quarter that follows the compliance date and at the end of each subsequent quarter. If the LRAA calculated based on fewer than four quarters of data would cause the PMCL to be exceeded regardless of the monitoring results of subsequent quarters, the owner shall report this information to the department as part of the first report due following the compliance date or anytime thereafter that this determination is made. If the owner is

required to conduct monitoring at a frequency that is less than quarterly, then the owner shall make compliance calculations beginning with the first compliance sample collected after the compliance date, unless the owner is required to conduct increased monitoring under 12VAC5-590-374 F 5.

(4) Whether, based on 12VAC5-590-384 B 1, the PMCL was violated at any monitoring location.

(5) Any operational evaluation levels under 12VAC5-590-384 B 1 d that were exceeded during the quarter, and if so, the location and date and the calculated TTHM and HAA5 levels.

b. The owner of a waterworks using a surface water source, a GUDI source, or both seeking to qualify for or remain on reduced TTHM and HAA5 monitoring shall report the following source water TOC information for each water treatment plant that treats surface water or groundwater under the direct influence of surface water to the department within 10 days of the end of any quarter in which monitoring is required:

(1) The number of source water TOC samples collected each month during last quarter.

(2) The date and result of each sample collected during last quarter.

(3) The quarterly average of monthly samples collected during last quarter or the result of the quarterly sample.

(4) The RAA of quarterly averages from the past four quarters.

(5) Whether the RAA exceeded 4.0 mg/L.

2. The owner of a waterworks monitoring for chlorite under the requirements of 12VAC5-590-374 G shall report:

a. The number of entry point samples collected each month for the last three months.

b. The location, date, and result of each sample (both entry point and distribution system) collected during the last quarter.

c. For each month in the reporting period, the arithmetic average of all samples collected in each three sample set collected in the distribution system.

d. Whether, based on 12VAC5-590-384 B 3, the PMCL was violated, in which month, and how many times it was violated each month.

3. The owner of a waterworks monitoring for bromate under the requirements of 12VAC5-590-374 H shall report:

a. The number of samples collected during the last quarter.

b. The location, date, and result of each sample collected during the last quarter.

c. The arithmetic average of the monthly arithmetic averages of all samples collected in the last year.

d. Whether, based on 12VAC5-590-384 B 2, the PMCL was violated.

E. Reporting requirements for disinfectants. The owner shall report the information specified in this subsection to the department in accordance with 12VAC5-590-530 [~~within 10 days after the end of each monitoring period in which samples were collected~~]. The department may choose to perform calculations and determine whether the MRDL was violated, instead of having the owner report that information:

1. The owner of a waterworks monitoring for chlorine or chloramines under the requirements of 12VAC5-590-374 I 1 shall report:

a. The number of samples collected during each month of the last quarter.

b. The monthly arithmetic average of all samples collected in each month for the last 12 months.

c. The arithmetic average of all monthly averages for the last 12 months.

d. Whether, based on 12VAC5-590-384 C 1, the MRDL was violated.

2. The owner of a waterworks monitoring for chlorine dioxide under the requirements of 12VAC5-590-374 I 2 shall report:

a. The dates, results, and locations of samples collected during the last quarter.

b. Whether, based on 12VAC5-590-384 C 2, the MRDL was violated.

c. Whether the MRDL was exceeded in any two consecutive daily samples and whether the resulting violation was acute or nonacute.

F. Reporting requirements for DBPPs and enhanced coagulation or enhanced softening. The owner shall report the following information to the department [~~within 10 days after the end of each monitoring period in which the samples were collected~~] in accordance with [~~subsection A of this section 12VAC5-590-530~~]. The department may choose to perform calculations and determine whether the treatment technique was met, instead of having the owner report that information:

1. The owner of a waterworks monitoring monthly or quarterly for TOC under the requirements of 12VAC5-590-374 J and required to meet the enhanced coagulation or enhanced softening requirements in 12VAC5-590-411 A 2 shall report:

a. The number of paired (source water and treated water) samples collected during the last quarter.

b. The location, date, and results of each paired sample and associated alkalinity collected during the last quarter.

c. For each month in the reporting period that paired samples were collected, the arithmetic average of the

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percent reduction of TOC for each paired sample and the required TOC percent removal.

d. Calculations for determining compliance with the TOC percentage removal requirements, as provided in 12VAC5-590-411 A 3.

e. Whether the waterworks is in compliance with the enhanced coagulation or enhanced softening percent removal requirements in 12VAC5-590-411 A 2 for the last four quarters.

2. The owner of a waterworks monitoring monthly or quarterly for TOC under the requirements of 12VAC5-590-374 J and meeting one or more of the alternative compliance criteria in 12VAC5-590-411 [~~A 1 b or~~] A 1 c [or A 1 d] shall report:

a. The alternative compliance criterion that the waterworks is using.

b. The number of paired samples collected during the last quarter.

c. The location, date, and result of each paired sample and associated alkalinity collected during the last quarter.

d. The running annual arithmetic average based on monthly averages (or quarterly samples) of source water TOC for a waterworks meeting a criterion in 12VAC5-590-411 A 1 c (1) or A 1 c (3) or of treated water TOC for waterworks meeting the criterion in 12VAC5-590-411 A 1 c (2).

e. The running annual arithmetic average based on monthly averages (or quarterly samples) of source water SUVA for a waterworks meeting the criterion in 12VAC5-590-411 A 1 c (5) or of treated water SUVA for a waterworks meeting the criterion in 12VAC5-590-411 A 1 c (6).

f. The RAA of source water alkalinity for a waterworks meeting the criterion in 12VAC5-590-411 A 1 c (3) and of treated water alkalinity for a waterworks meeting the criterion in 12VAC5-590-411 [~~A 1 e (4)~~ A 1 d (1)].

g. The RAA for both TTHM and HAA5 for a waterworks meeting the criterion in 12VAC5-590-411 A 1 c (3) or A 1 c (4).

h. The RAA of the amount of magnesium hardness removal (as CaCO₃, in mg/L) for a waterworks meeting the criterion in 12VAC5-590-411 [~~A 1 e (2)~~ A 1 d (2)].

i. Whether the waterworks is in compliance with the particular alternative compliance criterion in 12VAC5-590-411 [~~A 1 b~~ A 1 c] or [A 1 d].

G. Additional reporting requirements. The owner shall report the following incidents within 24 hours to the department:

1. A waterborne disease outbreak that is potentially attributable to that waterworks.

2. Chlorine residual of below 0.2 mg/L in the water entering the distribution system. The owner also shall notify the

department by the end of the next business day whether or not the residual was restored to at least 0.2 mg/L within four hours.

12VAC5-590-532. Reporting requirements for lead and copper.

A. The owner shall report all of the information in this section to the department in accordance with this section.

B. Reporting requirements for tap water monitoring for lead and copper and for water quality parameter monitoring.

1. Except as provided in subdivision B 1 g of this section, the owner shall report the information specified in this subsection for all tap water samples specified in 12VAC5-590-375 B and for all water quality parameter samples specified in 12VAC5-590-375 C within the first 10 days following the end of each applicable monitoring period specified in 12VAC5-590-375 B and C (i.e., every six months, annually, every three years, or every nine years). For monitoring periods with a duration less than six months, the end of the monitoring period is the last date samples can be collected during the period as specified in 12VAC5-590-375 B and C.

a. The results of all tap samples for lead and copper including location or a location site code and the criteria under 12VAC5-590-375 B 1 c through B 1 f or 12VAC5-590-375 C under which the site was selected for the waterworks sampling pool.

b. Documentation for each tap water lead or copper sample for which the owner requests invalidation pursuant to 12VAC5-590-375 B 6.

c. The 90th percentile lead and copper concentrations measured from among all lead and copper tap water samples collected during each monitoring period (calculated in accordance with 12VAC5-590-385 C) unless the department calculates the 90th percentile lead and copper levels under subsection I of this section.

d. With the exception of initial tap sampling conducted pursuant to 12VAC5-590-375 B 4 a, the owner shall designate any site that was not sampled during previous monitoring periods and include an explanation of why sampling sites have changed.

e. The results of all tap samples for pH, and where applicable, alkalinity, calcium, conductivity, temperature, and orthophosphate or silica collected under 12VAC5-590-375 C 2 through C 5.

f. The results of all samples collected at the entry point to the distribution system for applicable water quality parameters under 12VAC5-590-375 C 2 through C 5.

g. The owner shall report the results of all water quality parameter samples collected under 12VAC5-590-375 C 3 through 12VAC5-590-375 C 6 during each six month monitoring period specified in 12VAC5-590-375 C 4 within the first 10 days following the end of the

monitoring period unless the department has specified a more frequent reporting requirement.

2. The owner of a NTNC, or a community waterworks meeting the criteria of 12VAC5-590-405 D 2 e, that does not have enough taps that can provide first-draw samples must either:

a. Provide written documentation to the department identifying standing times and locations for enough non-first-draw samples to make up the sampling pool under 12VAC5-590-375 B 2 e by the start of the first applicable monitoring period under 12VAC5-590-375 B 4, unless the department has waived prior approval of non-first-draw sample sites selected by the owner pursuant to 12VAC5-590-375 B 2 e; or

b. If the department has waived prior approval of non-first-draw sample sites selected by the owner, then the owner shall identify in writing each site that did not meet the six-hour minimum standing time and the length of standing time for that particular substitute sample collected pursuant to 12VAC5-590-375 B 2 e and include this information with the lead and copper sample results required to be submitted pursuant to subsection B of this section.

3. At a time specified by the department, or if no specific time is designated by the department, then as early as practical before the addition of a new source or any long-term change in water treatment, an owner (i) deemed to have optimized corrosion control under 12VAC5-590-405 A 2 b (3), (ii) subject to reduced monitoring pursuant to 12VAC5-590-375 B 4 d, or (iii) subject to a monitoring waiver pursuant to 12VAC5-590-375 B 7 shall submit written documentation to the department describing the change or addition. The department must approve the addition of a new source or a long-term change in treatment before it is implemented by the owner. Examples of long-term treatment changes include the addition of a new treatment process or modification of an existing treatment process. Examples of modification include switching secondary disinfectants, switching coagulants (e.g., alum to ferric chloride), or switching corrosion inhibitor products (e.g., orthophosphate to blended phosphate). Long-term changes can include dose changes to existing chemicals if the waterworks is planning long-term changes to its finished water pH or residual inhibitor concentration. Long-term treatment changes would not include chemical dose fluctuations associated with daily source water quality changes.

4. The owner of a small waterworks applying for a monitoring waiver under 12VAC5-590-375 B 7 or subject to a waiver granted pursuant to 12VAC5-590-375 B 7 c shall provide the following information to the department in writing by the specified deadline:

a. By the start of the first applicable monitoring period in 12VAC5-590-375 B 4, the owner of a small waterworks applying for a monitoring waiver shall provide the documentation required to demonstrate that the waiver criteria of 12VAC5-590-375 B 7 a and 12VAC5-590-375 B 7 b have been met.

b. No later than nine years after the monitoring previously conducted pursuant to 12VAC5-590-375 B 7 b or 12VAC5-590-375 B 7 d (1), the owner of a small waterworks desiring to maintain its monitoring waiver shall provide the information required by 12VAC5-590-375 B 7 d (1) and 12VAC5-590-375 B 7 d (2).

c. No later than 60 days after becoming aware that it is no longer free of lead-containing or copper-containing material, the owner of a small waterworks with a monitoring waiver shall provide written notification to the department setting forth the circumstances resulting in the lead-containing or copper-containing materials being introduced into the waterworks and what corrective action, if any, the owner plans to take to remove these materials.

5. The owner of a groundwater system that limits water quality parameter monitoring to a subset of entry points under 12VAC5-590-375 C 3 c shall provide by the commencement of the monitoring written correspondence to the department that identifies the selected entry points and includes information sufficient to demonstrate that the sites are representative of water quality and treatment conditions throughout the waterworks.

C. Source water monitoring reporting requirements.

1. The owner shall report the sampling results for all source water samples collected in accordance with 12VAC5-590-375 D within the first 10 days following the end of each source water monitoring period (i.e., annually, per compliance period, per compliance cycle) specified in 12VAC5-590-375 D.

2. With the exception of the first round of source water sampling conducted pursuant to 12VAC5-590-375 D 2, the owner shall specify any site that was not sampled during previous monitoring periods and include an explanation of why the sampling point has changed.

D. Corrosion control treatment reporting requirements. By the applicable dates under 12VAC5-590-405 A 2 a, an owner shall report the following information:

1. For the owner demonstrating that corrosion control has already been optimized, information required in 12VAC5-590-405 A 2 b (2) or 12VAC5-590-405 A 2 b (3).

2. For the owner required to optimize corrosion control, the owner's recommendation regarding optimal corrosion control treatment under 12VAC5-590-405 A 1 a.

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3. For the owner required to evaluate the effectiveness of corrosion control treatments, the information required under 12VAC5-590-405 A 1 c.

4. For the owner required to install optimal corrosion control designated by the department under 12VAC5-590-405 A 1 d, a letter certifying that the owner has completed installing that treatment.

E. Source water treatment reporting requirements. By the applicable dates in 12VAC5-590-405 B, an owner shall provide the following information to the department:

1. If required under 12VAC5-590-405 B 2 a, the owner's recommendation regarding source water treatment; or

2. For an owner required to install source water treatment under 12VAC5-590-405 B 2 b, a letter certifying that the owner has completed installing the treatment designated by the department within 24 months after the department designated the treatment.

F. Lead service line replacement reporting requirements. The owner shall report the following information to the department to demonstrate compliance with the requirements of 12VAC5-590-405 C:

1. No later than 12 months after the end of a monitoring period in which a waterworks exceeds the lead AL in sampling referred to in 12VAC5-590-405 C 1, the owner shall submit written documentation to the department of the materials evaluation conducted as required in 12VAC5-590-375 B 1, to identify the initial number of lead service lines in the distribution system at the time the waterworks exceeds the lead AL, and provide the owner's schedule for annually replacing at least 7.0% of the initial number of lead service lines in its distribution system.

2. No later than 12 months after the end of a monitoring period in which a waterworks exceeds the lead AL in sampling referred to in 12VAC5-590-405 C 1, and every 12 months thereafter, the owner shall demonstrate to the department in writing that the owner has either:

a. Replaced in the previous 12 months at least 7.0% of the initial lead service lines or a greater number of lines specified by the department under 12VAC5-590-405 C 6 in the distribution system; or

b. Conducted sampling that demonstrates that the lead concentration in all service line samples from an individual line collected pursuant to 12VAC5-590-375 B 2 c is less than or equal to 0.015 mg/L. In these cases, the total number of lines replaced that meet the criteria in 12VAC5-590-405 C 4 shall equal at least 7.0% of the initial number of lead service lines identified under subdivision F 1 of this section or the percentage specified by the department under 12VAC5-590-405 C 6.

3. The annual letter submitted to the department under subdivision F 2 of this section shall contain the following information:

a. The number of lead service lines scheduled to be replaced during the previous year of the waterworks replacement schedule;

b. The number and location of each lead service line replaced during the previous year of the waterworks replacement schedule; and

c. If measured, the water lead concentration and location of each lead service line sampled, the sampling method, and the date of sampling.

4. The owner of a waterworks that collects lead service line samples following partial lead service line replacement required by 12VAC5-590-405 C shall report the results to the department within the first 10 days of the month following the month in which the owner receives the laboratory results or as specified by the department. The owner shall also report any additional information as specified by the department in a time and manner prescribed by the department to verify that all partial lead service line replacement activities have taken place.

G. Public education program reporting requirements. The owner shall report the following information to the department to demonstrate compliance with the requirements of 12VAC5-590-405 D.

1. The owner of a waterworks that is subject to the public education requirements in 12VAC5-590-405 D shall within 10 days after the end of each period in which the owner is required to perform public education tasks in accordance with 12VAC5-590-405 D 2 send written notice to the department that contains:

a. A demonstration that the owner has delivered the public education materials that meet the content requirements of 12VAC5-590-405 D 1 and the delivery requirements of 12VAC5-590-405 D 2; and

b. A list of all the newspapers, radio stations, television stations, and facilities and organizations to which the owner delivered public education materials during the period in which the owner was required to perform public education tasks.

2. Unless required by the department, an owner that previously has submitted the information required by subdivision G 1 b of this section need not resubmit the information required by subdivision G 1 b of this section, as long as there has been no changes in the distribution list and the owner certifies that the public education materials were distributed to the same list submitted previously.

3. No later than three months following the end of the monitoring period, the owner shall mail a sample copy of the consumer notification of tap results to the department along with a certification that the notification has been distributed

in a manner consistent with the requirements of 12VAC5-590-405 D 4.

H. Reporting of additional monitoring data. The owner of a waterworks that collects sampling data in addition to that required by 12VAC5-590-375 shall report the results to the department within the first 10 days following the end of the applicable monitoring period under 12VAC5-590-375 B, 12VAC5-590-375 C, and 12VAC5-590-375 D during which the samples are collected.

I. Reporting of the 90th percentile lead and copper concentrations where the department calculates a waterworks' 90th percentile concentrations. The owner is not required to report the 90th percentile lead and copper concentrations measured from among all lead and copper tap samples collected during each monitoring period, as required by subdivision B 1 d of this section if:

1. The department has previously notified the owner that the department will calculate the waterworks' 90th percentile lead and copper concentrations based on the lead and copper tap results submitted pursuant to subdivision I 2 a of this section and has specified a date before the end of the applicable monitoring period by which the owner shall provide the results of the lead and copper tap water samples; and

2. The owner has provided the following information to the department by the date specified in subdivision I 1 of this section:

a. The results of all tap samples for lead and copper including the location of each site and the criteria under 12VAC5-590-375 B 1 c through 12VAC5-590-375 B 1 f or 12VAC5-590-375 B 1 g under which the site was selected for the waterworks sampling pool, pursuant to subdivision B 1 a of this section;

b. An identification of sampling sites utilized during the current monitoring period that were not sampled during the previous monitoring periods and an explanation why sampling sites have changed; and

c. The department has provided the results of the 90th percentile lead and copper calculations in writing to the owner before the end of the monitoring period.

12VAC5-590-540. Public notices.

~~All owners~~ The owner shall give public notice to (i) persons served by the waterworks and (ii) the owner of any consecutive waterworks to which it sells or otherwise provides water under the following circumstances.

1. Tier 1.

- a. When E. coli are present in the distribution system, or when the waterworks fails to test for E. coli when any repeat sample tests positive for total coliform;
- b. Violation of the PMCL for E. coli;

c. Violation of the PMCL for nitrate, nitrite, or total nitrate and nitrite;

d. Failure to ~~take~~ collect a confirmation sample within 24 hours of the waterworks receipt of the first sample showing an exceedance of the nitrate or nitrite PMCL;

e. Exceedance of the nitrate PMCL by a noncommunity waterworks, where permitted to exceed the PMCL by the ~~commissioner~~ department;

f. Violation of the MRDL for chlorine dioxide when one or more samples ~~taken~~ collected in the distribution system the day following an exceedance of the MRDL at the entry point ~~of~~ to the distribution system exceed the MRDL;

g. Failure to monitor chlorine dioxide residuals in the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system;

h. Violation of the treatment technique requirements for filtration and disinfection resulting from a single exceedance of the maximum allowable turbidity limit, where the ~~commissioner~~ department determines after consultation that a Tier 1 notice is required;

i. Failure to consult with the ~~commissioner~~ department within 24 hours after the owner learns of the violation of the treatment technique requirements for filtration and disinfection resulting from a single exceedance of the maximum allowable turbidity limit;

j. Occurrence of a waterborne disease outbreak or other waterborne emergency (such as a failure or significant interruption in key water treatment processes, a natural disaster that disrupts the water supply or distribution system, or a chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water contamination);

k. Detection of E. coli in groundwater source samples; or

l. Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the ~~commissioner~~ [commissioner or] department on a case-by-case basis.

2. Tier 2.

a. All violations of the PMCL, MRDL, and treatment technique requirements, except where a Tier 1 public notice is required or where the ~~commissioner~~ department determines that a Tier 1 notice is required instead per subdivision A 1 l of this ~~subsection~~ section;

b. Violations of the monitoring and testing procedure requirements, where the ~~commissioner~~ department determines that a Tier 2 rather than a Tier 3 public notice is required instead, taking into account potential health impacts and persistence of the violation;

c. Failure to comply with the terms and conditions of any variance or exemption in place; or

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d. Failure to take corrective action or failure to maintain at least ~~four-log~~ 4-log treatment of viruses (using inactivation, removal, or an approved combination of ~~four-log~~ 4-log virus inactivation and removal) before or at the first customer under the treatment technique requirements for waterworks with groundwater sources.

3. Tier 3.

a. Monitoring violations, except where a Tier 1 public notice is required per subdivisions A 1 d and A 1 g of this ~~subsection~~ section, or where the ~~commissioner~~ department determines that a Tier 2 public notice is required instead per subdivision A 2 b of this ~~subsection~~ section;

b. Failure to comply with a testing procedure, except where a Tier 1 notice is required per subdivision A 1 b of this ~~subsection~~ section or where the ~~commissioner~~ department determines that a Tier 2 notice is required instead per subdivision A 2 b of this ~~subsection~~ section;

c. Operation under a variance or an exemption to a PMCL or treatment technique requirement;

d. Availability of ~~unregulated contaminant~~ UC monitoring results; or

e. Exceedance of the fluoride ~~secondary maximum contaminant level (SMCL); and~~ SMCL.

f. ~~Reporting and recordkeeping violations specified in 12VAC5-590-530 B, C, and D, and 12VAC5-590-550 L.~~

4. The department may require public notice for violations or other situations not listed in this section or may require a higher tier of public notice for specific violations and situations listed in this section.

a. The content and extent of distribution of these public notices shall be determined by the department.

b. The owner shall provide the public notice certification required in subsection N of this section.

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

B. If a waterworks has a violation, failure, exceedance, or situation in a portion of the distribution system that is physically or hydraulically isolated from other parts of the distribution system, the ~~commissioner~~ department may allow the owner to limit distribution of the public notice to only those persons served by ~~that~~ the portion of the waterworks ~~which~~ that is out of compliance. The decision granting limited distribution of the public notice shall be issued in writing.

C. Public notice distribution requirements.

1. For Tier 1 violations, exceedances, or situations, the owner shall:

a. Provide a public notice as soon as practical but no later than 24 hours after the owner learns of the violation, exceedance, or situation;

b. Initiate consultation with the ~~commissioner~~ department as soon as practical, but no later than 24 hours after the owner learns of the violation, exceedance, or situation, to determine additional public notice requirements;

c. Comply with any additional public notice requirements, including any repeat notices or direction on the duration of the posted notices; that are established as a result of the consultation with the ~~commissioner~~ department. Such These requirements may include the timing, form, manner, frequency, and content of repeat notices (if any) and other actions designed to reach all persons served; and

d. Provide the public notice in a form and manner reasonably calculated to reach all persons served. The form and manner shall fit the specific situation, and shall be designed to reach residential, transient, and ~~non-~~ transient users of the waterworks. ~~In order to~~ To reach all persons served, owners shall use, at a minimum, one or more of the following forms of delivery:

(1) Appropriate broadcast media (such as radio and television);

(2) Posting of the public notice in conspicuous locations throughout the area served by the waterworks;

(3) Hand delivery of the public notice to persons served by the ~~water system~~ waterworks; or

(4) Another delivery method approved in writing by the ~~commissioner~~ department.

2. For Tier 2 violations, exceedances, or situations, the owner shall:

a. Provide the public notice as soon as practical, but no later than 30 days after the owner learns of the violation, exceedance, or situation. The ~~commissioner~~ department may allow, on a case-by-case determination, additional time for the initial notice of up to three months from the date the owner learns of the violation, exceedance, or situation; however, the ~~commissioner~~ department shall not grant an extension to the 30-day deadline for any unresolved violation, exceedance, or situation.

b. Repeat the public notice every three months as long as the violation, exceedance, or situation persists, unless the ~~commissioner~~ department determines that appropriate circumstances warrant a different repeat notice frequency. In no circumstance shall the repeat notice be given less frequently than once per year. Repeat notice frequency less than every three months shall not be allowed for (i) a violation as specified in 12VAC5-590-380 B and 12VAC5-590-392 F; (ii) a treatment technique violation for filtration and disinfection; and (iii) other ongoing violations, exceedances, or situations.

c. Consult with the ~~commissioner~~ department as soon as practical but no later than 24 hours after the owner learns of a violation of the treatment technique requirements for filtration and disinfection resulting from a single exceedance of the maximum allowable turbidity limit to determine whether a Tier 1 public notice is required to protect public health. If consultation does not take place within the 24-hour period, then the owner shall distribute a Tier 1 public notice of the violation within the next 24 hours (i.e., no later than 48 hours after the owner learns of the violation).

d. Provide the initial public notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period.

(1) For a community waterworks, the owner shall:

(a) Mail or otherwise directly deliver the public notice to each customer receiving a bill and to other service connections to which water is delivered by the waterworks; and

(b) Use any other distribution method reasonably calculated to reach other persons regularly served by the waterworks, if they would not normally be reached by the notice required in subdivision C 2 d (1) (a) of this ~~subsection~~ section. ~~Such~~ These persons may include those who do not pay water bills or do not have service connection addresses (e.g., house renters, apartment dwellers, university students, nursing home patients, prison inmates, etc.). Other methods may include: ~~Publication~~ (i) publication in a local newspaper; (ii) delivery of multiple copies for distribution by customers that provide their drinking water to others (e.g., apartment building owners or large private employers); (iii) posting in public places served by the ~~system~~ waterworks or on the Internet; or (iv) delivery to community organizations.

(2) For a noncommunity waterworks, the owner shall:

(a) Post the public notice in conspicuous locations throughout the distribution system frequented by persons served by the waterworks, or by mail or direct delivery to each customer and service connection (where known); and

(b) Use any other method reasonably calculated to reach other persons served by the system if they would not normally be reached by the notice required in subdivision C 2 d (2) (a) of this ~~subsection~~ section. ~~Such~~ These persons may include those served who may not see a posted notice because the posted notice is not in a location they routinely pass by. Other methods may include (i) publication in a local newspaper or newsletter distributed to customers; (ii) use of ~~e-mail~~ email to notify employees or students; or (iii) delivery of multiple copies in central locations (e.g., community centers).

e. Maintain a posted public notice in place for as long as the violation, exceedance, or situation persists, but in no

case for less than seven days, even if the violation, exceedance, or situation is resolved.

3. For Tier 3 violations, exceedances, or situations the owner shall:

a. Provide the public notice not later than one year after the owner learns of the violation, exceedance, or situation or begins operating under a variance or exemption.

b. Repeat the public notice annually for as long as the violation, exceedance, variance, exemption, or other situation persists.

c. Maintain a posted public notice in place for as long as the violation, exceedance, variance, exemption, or other situation persists, but in no case less than seven days even if the violation, ~~exceedance~~, or situation is resolved.

d. Instead of individual Tier 3 public notices, the owner may use an annual report detailing all violations, exceedances, and situations that occurred during the previous ~~twelve~~ 12 months, as long as the timing requirements of subdivision C 3 a of this ~~subsection~~ section are met. For a community waterworks, the ~~Consumer Confidence Report (CCR)~~ CCR may be used as a vehicle for the initial Tier 3 public notice and all required repeat notices, provided that:

(1) The CCR is provided to persons served by the waterworks no later than 12 months after the owner learns of the violation, exceedance, or other situation.

(2) The Tier 3 public notice contained in the CCR meets the content requirements in subdivision ~~E D~~ D of this section.

(3) The CCR is distributed in a manner meeting the delivery requirements in subdivision ~~D 3 e~~ C 3 e (1) of this section.

e. For a community waterworks, the owner shall:

(1) Mail or otherwise directly deliver the public notice to each customer receiving a bill and to other service connections to which water is delivered by the waterworks; and

(2) Use any other method reasonably calculated to reach other persons regularly served by the ~~system~~ waterworks if they would not normally be reached by the notice required in subdivision C 3 e (1) of this ~~subsection~~ section. ~~Such~~ These persons may include those who do not pay water bills or do not have service connection addresses (e.g., house renters, apartment dwellers, university students, nursing home patients, prison inmates, etc.). Other methods may include (i) publication in a local newspaper, (ii) delivery of multiple copies for distribution by customers that provide their drinking water to others (e.g., apartment building owners or large private employers), (iii) posting in public places or on the Internet, or (iv) delivery to community organizations.

f. For a noncommunity waterworks the owner shall:

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- (1) Post the public notice in conspicuous locations throughout the distribution system frequented by persons served by the waterworks, or by mail or direct delivery to each customer and service connection (where known); and
- (2) Use any other method reasonably calculated to reach other persons served by the ~~system~~ waterworks, if they would not normally be reached by the notice required in subdivision C 3 f (1) of this ~~subsection~~ section. ~~Such~~ These persons may include those who may not see a posted notice because the notice is not in a location they routinely pass by. Other methods may include: ~~Publication~~ (i) publication in a local newspaper or newsletter distributed to customers; (ii) use of E-mail email to notify employees or students; or (iii) delivery of multiple copies in central locations (e.g., community centers).

D. Public notice contents.

1. Each public notice for PMCL, MRDL, and TT violations and other situations requiring a public notice shall include the following elements:
 - a. A description of the violation, exceedance, or situation, including the ~~contaminant(s)~~ contaminants of concern, and (as applicable) the contaminant ~~level(s)~~ levels;
 - b. When the violation, exceedance, or situation occurred;
 - c. Any potential adverse health effects from the violation, exceedance, or situation, including the standard language under subdivision 5 a or 5 b of this subsection, whichever is applicable;
 - d. The population at risk, including subpopulations particularly vulnerable if exposed to the contaminant in their drinking water;
 - e. Whether alternative water supplies should be used;
 - f. What actions consumers should take, including when they should seek medical help, if known;
 - g. What the owner is doing to correct the violation, exceedance, or situation;
 - h. When the owner expects the waterworks to return to compliance or resolve the situation;
 - i. The name, business address, and phone number of the owner, operator, or designee as a source of additional information concerning the notice; and
 - j. A statement to encourage the notice recipient to distribute the public notice to other persons served, using the standard language under subdivision 5 c of this subsection, where applicable.
2. Each public notice for a waterworks that has been granted a variance or exemption shall include the following elements:
 - a. An explanation of the reasons for the variance or exemption;
 - b. The date on which the variance or exemption was issued;
 - c. A brief status report on the steps the owner is taking to install treatment, find alternative sources of source water, or otherwise comply with the terms and schedules of the variance or exemption; and
 - d. A notice of any opportunity for public input in the ~~review~~ evaluation of the variance or exemption.
3. Each public notice for a waterworks that violates the conditions of a variance or an exemption shall contain the ~~ten~~ 10 elements listed in subdivision D 1 of this ~~subsection~~ section.
4. Each public notice shall:
 - a. Be displayed in a conspicuous way when printed or posted;
 - b. Not contain overly technical language or very small print;
 - c. Not be formatted in a way that defeats the purpose of the notice;
 - d. Not contain language ~~which~~ that nullifies the purpose of the notice; and
 - e. Contain information in the appropriate ~~language(s)~~ languages, for waterworks serving a large proportion of ~~non-English-speaking~~ non-English-speaking consumers, regarding the importance of the notice or contain a telephone number or address where persons served may contact the owner to obtain a translated copy of the notice or to request assistance in the appropriate language.
5. The public notice shall include the following standard language:
 - a. For PMCL or MRDL violations, treatment technique violations, and violations of the condition of a variance or ~~exemption standard~~ an exemption, use standard health effects language as specified in ~~Appendix O~~ 12VAC5-590-546 corresponding to each PMCL, MRDL, and treatment technique violation and for each violation of a condition of a variance or an exemption. For violation of the treatment technique requirement, the public notice shall also include one or both of the following statements, as appropriate:
 - (1) "We failed to conduct the required assessment."
 - (2) "We failed to correct all sanitary defects that were identified during the assessment."
 - b. For monitoring and testing procedure violations including failure to monitor for total coliform bacteria or E. coli ~~prior to~~ before serving water from a seasonal ~~waterworks standard~~ waterworks, use standard language as specified below, including the language necessary to fill in the blanks:

"We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During

(compliance period), we (did not monitor or test or did not complete all monitoring or testing) for ~~(contaminant(s))~~, (contaminants) and therefore cannot be sure of the quality of your drinking water during that time."

c. For all public ~~notices—standard~~ notices, use standard language (where applicable), as specified ~~below~~ in this subdivision c:

"Please share this information with all the other people who drink this water, especially those who may not have received this notice directly ~~(for example, (e.g.,~~ people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail."

d. For total coliform bacteria treatment technique violations the public notice shall include the following statement: "We found coliforms indicating the need to look for potential problems in our waterworks. When this occurs, we are required to conduct assessments to identify problems and correct any problems that are found." The public notice shall also include the following statements, as appropriate:

- (1) "We failed to conduct the required assessment."
- (2) "We failed to correct all sanitary defects that were identified during the assessment."

e. For E. coli treatment technique violations the public notice shall include the following statement: "We violated the standard for E. coli, indicating the need to look for potential problems in our waterworks. When this occurs, we are required to conduct a detailed assessment to identify problems and to correct any problems that are found." The public notice shall also include the following statements, as appropriate:

- (1) "We failed to conduct the required assessment."
- (2) "We failed to correct all sanitary defects that were identified during the assessment."

E. Public notice to new billing units or customers.

1. For a community waterworks, the owner shall give a copy of the most recent public notice for any continuing violation, exceedance, variance, ~~or~~ exemption, or other ongoing ~~situations~~ situation requiring a public notice to all new billing units or new customers ~~prior to~~ before or at the time service begins.

2. For a noncommunity waterworks, the owner shall continuously post the public notice in conspicuous locations ~~in order~~ to inform new consumers of any continuing violation, exceedance, variance, ~~or~~ exemption, or other situation requiring a public notice for as long as the violation, exceedance, variance, exemption, or other situation persists.

F. Special notice of the availability of ~~unregulated~~ contaminant UC monitoring results.

1. The owner of a community waterworks or ~~non-transient, noncommunity waterworks~~ a NTNC shall notify persons served by the ~~system~~ waterworks of the availability of the results of ~~such the~~ the sampling no later than 12 months after the monitoring results are known.

2. The special notice shall meet the requirements ~~for~~ of a Tier 3 public notice and shall identify a person and telephone number to contact for information on the monitoring results.

G. Special notice for exceedance of the SMCL for fluoride.

1. ~~Community~~ A community waterworks that ~~exceed~~ exceeds the SMCL of 2 mg/L; but ~~do~~ does not exceed the PMCL of 4 mg/L for fluoride; shall provide public notice to persons served as soon as practical but no later than 12 months from the day the owner learns of the exceedance.

2. A copy of the notice shall be sent to all new billing units and new customers at the time service begins and to the ~~district engineer~~ department.

3. The owner shall repeat the notice at least annually for as long as the SMCL is exceeded.

4. If the public notice is posted, then the notice shall remain in place for as long as the SMCL is exceeded, but in no case less than seven days even if the exceedance is eliminated.

5. On a case-by-case basis, the ~~commissioner~~ department may require an initial notice sooner than 12 months and repeat notices more frequently than annually.

6. The form and manner of the public notice (including repeat notices) shall meet the requirements ~~for~~ of a Tier 3 public notice.

7. The public notice shall contain the following language, including the language necessary to fill in the blanks:

"This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by your community waterworks (name) has a fluoride concentration of (insert value) mg/L. Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the excess fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products by young children. Older children and adults may safely drink the water. Drinking water containing more than 4 mg/L of fluoride (the U.S. Environmental Protection

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Agency's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/L of fluoride, but we are required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/L because of this cosmetic dental problem. For more information, please call (name of water system contact) of (name of community waterworks) at (phone number). Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at ~~1-877-NSF-HELP~~ 1-877-867-3435 or email info@nsf.org."

H. Special notice for nitrate exceedances above PMCL by a noncommunity waterworks.

1. The owner of a noncommunity waterworks granted permission by the ~~commissioner~~ department to exceed the nitrate PMCL shall provide public notice to persons served meeting the requirements ~~for~~ of a Tier 1 notice.

2. The public notice shall be posted continuously and shall indicate the fact that nitrate levels exceed 10 mg/L and the potential health effects of exposure, meeting the requirements ~~for~~ of Tier 1 public notice delivery and content.

I. Special notice for repeated failure to conduct sampling of the source water for Cryptosporidium.

1. ~~A~~ The owner who is required to sample source water shall provide public notice to persons served when ~~he~~ the owner has failed to collect any three months of required samples. The form and manner of the public notice shall satisfy the requirements of a Tier 2 notice, and the notice shall be repeated in accordance with the requirements of a Tier 2 notice.

2. The notice shall contain the following language, including the language to fill in the blanks:

"We are required to monitor the source of your drinking water for Cryptosporidium. Results of the monitoring are to be used to determine whether water treatment at the [blank – fill in treatment plant name] is sufficient to adequately remove Cryptosporidium from your drinking water. We are required to complete this monitoring and make this determination by [blank – fill in required bin determination date]. We "did not monitor" or "did not complete all monitoring or testing" on schedule and, therefore, we may not be able to determine by the required date what treatment modifications, if any, shall be made to ensure adequate Cryptosporidium removal. Missing this deadline may, in turn, jeopardize our ability to have the required treatment modifications, if any, completed by the deadline required, [blank – fill in date]."

For more information, please call [blank – fill in name of waterworks contact] of [blank – fill in name of waterworks] at [blank – fill in phone number]."

3. The notice shall contain a description of what the owner is doing to correct the violation and when the owner expects the waterworks to return to compliance or resolve the situation.

J. Special notice for failure to determine bin classification or mean Cryptosporidium level.

1. ~~A~~ The owner ~~who that~~ is required to determine a bin classification or to determine mean Cryptosporidium level shall provide public notice to persons served when the determination has not been made as required. The form and manner of the public notice shall satisfy the requirements of a Tier 2 notice, and the notice shall be repeated in accordance with the requirements of a Tier 2 notice. However, a public notice is not required if the owner is complying with a schedule to address the violation approved by the ~~ODW~~ department.

2. The notice shall contain the following language, including the language to fill in the blanks:

"We are required to monitor the source of your drinking water for Cryptosporidium in order to determine by [blank – fill in date] whether water treatment at the [blank – fill in treatment plant name] is sufficient to adequately remove Cryptosporidium from you drinking water. We have not made this determination by the required date. Our failure to do this may jeopardize our ability to have the required treatment modifications, if any, completed by the required deadline of [blank – fill in date]. For more information, please call [blank – fill in name of waterworks contact] of [blank – fill in name of waterworks] at [blank – fill in telephone number]."

3. The notice shall contain a description of what the owner is doing to correct the violation and when the owner expects the waterworks to return to compliance or resolve the situation.

K. Special notice for significant deficiencies by a noncommunity groundwater ~~systems~~ system.

1. ~~Any~~ An owner of a noncommunity groundwater system ~~who that~~ has not corrected a significant deficiency within one year of being notified by the ~~ODW~~ department shall provide public notice to the consumers.

2. The form and manner of the public notice shall satisfy the requirements of a Tier 2 notice.

3. The owner shall continue to notify the public annually until the requirements of 12VAC5-590-421 have been satisfied. The notice shall include:

a. The nature of the significant deficiency and the date it was identified by the ~~ODW~~ department; and

b. The ~~ODW~~ department approved plan and schedule for correcting the significant deficiency including interim

measures, progress to date, and which of the interim measures have been completed.

4. For a noncommunity groundwater ~~systems~~ system with a large proportion of ~~non-English speaking~~ non-English-speaking consumers, the notice shall contain information in the appropriate ~~language or~~ languages regarding the importance of the notice or contain a telephone number or address where the consumers may contact the owner to obtain a translated copy of the notice or assistance with the appropriate language.

5. If directed by the ~~ODW~~ department, the owner of a noncommunity groundwater system with significant deficiencies that have been corrected shall inform the consumers of the significant deficiencies, how the deficiencies were corrected, and the date ~~or dates~~ of correction.

L. The ~~district engineer~~ department may give notice to the public required by this section on behalf of the owner ~~if the district engineer as long as the notice~~ complies with the requirements of this section. However, the owner remains legally responsible for ensuring that the requirements of this section are met.

M. The department may require an owner to provide public notice for significant changes in water quality.

N. Within 10 days of completion of each initial and repeat public notice, the owner shall provide the ~~district engineer~~ department with the following:

1. A certification that ~~he~~ the owner has fully complied with the public notice requirements; and
2. A representative copy of each type of notice that was distributed, published, posted, and made available to the persons served by the waterworks and to the media.

~~N. O.~~ The owner shall maintain copies of each public notice and certification for at least three years after issuance.

12VAC5-590-545. Consumer confidence reports.

A. Purpose and applicability.

1. ~~Each~~ The owner of a community waterworks owner shall deliver to ~~his~~ the owner's customers an annual report that contains information on the quality of the water delivered by the waterworks and characterizes the risks, if any, from exposure to contaminants detected in the drinking water.

2. For the purpose of this section, customers are defined as billing units or service connections to which water is delivered by a community waterworks.

3. For the purpose of this section, a contaminant is detected when the laboratory reports the contaminant level as a measured level and not as ~~non-detected (ND)~~ [~~ND or less than~~ (\Leftarrow) "non-detect," "not detected," "ND," or less than] a certain level. [~~The owner shall utilize a laboratory that~~

~~complies with] 12VAC5-590-340, and the laboratory's analytical and reporting procedures shall have been in accordance with 12VAC5-590-440; laboratory certification requirements of the Commonwealth of Virginia, Department of General Services, Division of Consolidated Laboratory Services; and consistent with current U. S. Environmental Protection Agency regulations found at 40 CFR Part 141 [12VAC5-590-440 These express that an analyte in a test sample cannot be reliably detected with the test equipment or laboratory instrumentation and the method used] .~~

B. Effective dates.

1. ~~Each~~ The owner of an existing community waterworks ~~owner~~ shall deliver ~~his~~ the report by July 1 annually.

2. The owner of a new community waterworks shall deliver ~~his~~ the first report by July 1 of the year after its first full calendar year in operation and annually thereafter.

3. The owner of a community waterworks that sells water to a consecutive waterworks shall deliver the applicable information necessary to comply with the requirements contained in this section to the consecutive waterworks by April 1 annually, or on a date mutually agreed upon by the seller and the purchaser and specifically included in a contract between the parties.

C. Content.

1. ~~Each~~ The owner of a community waterworks owner shall provide ~~his~~ the owner's customers an annual report that contains the information on the source of the water delivered as follows:

a. ~~Each~~ The report shall identify the source ~~or sources~~ of the water delivered by the community waterworks by providing information on:

- (1) The type of the source water (e.g., surface water, ground water); and
- (2) The commonly used name, if any, and location of the body ~~or bodies~~ of the source water.

b. Where a source water assessment has been completed, the report shall:

- (1) Notify consumers of the availability of the assessment;
- (2) Describe the means to obtain the assessment; and
- (3) Include a brief summary of the waterworks' susceptibility to potential sources of contamination.

c. The owner ~~should~~ is encouraged to highlight in the report significant sources of contamination in the source water area if ~~such~~ the information is readily available.

2. For the purpose of compliance with this section, ~~each~~ the report shall include the following definitions:

a. "Maximum contaminant level goal" or "MCLG" means the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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b. "Maximum contaminant level" or "MCL" means the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

c. ~~A~~ The report for a community waterworks operating under a variance or an exemption issued by the ~~commissioner~~ [department commissioner] under 12VAC5-590-140 and 12VAC5-590-150 shall include the following definition: "Variances and exemptions" means state or EPA permission not to meet an MCL or a treatment technique under certain conditions.

d. ~~A~~ The report that contains data on contaminants that EPA regulates using any of the following terms shall include the applicable definitions:

(1) "Treatment technique" means a required process intended to reduce the level of a contaminant in drinking water.

(2) "Action level" means the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that an owner shall follow.

(3) "Maximum residual disinfectant level goal" or "MRDLG" means the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

(4) "Maximum residual disinfectant level" or "MRDL" means the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.

(5) "Level 1 assessment" means a study of the waterworks to identify potential problems and determine, if possible, why total coliform bacteria have been found in ~~our~~ waterworks.

(6) "Level 2 assessment" means a very detailed study of the waterworks to identify potential problems and determine, if possible, why an E. coli PMCL violation has occurred and why total coliform bacteria have been found in ~~our~~ waterworks on multiple occasions.

3. Information on detected contaminants.

a. This section specifies the requirements for information to be included in ~~each~~ the report for ~~the following contaminants:~~

~~(1) Contaminants subject to a PMCL, action level, maximum residual disinfectant level MRDL, or treatment technique as specified in 12VAC5-590-370;~~

~~(2) Unregulated contaminants subject to monitoring as specified in 12VAC5-590-370; and~~

~~(3) Disinfection byproducts or microbial contaminants, except as provided under subdivision 5 a of this subsection, and which are detected in the finished water~~

~~contaminants subject to a PMCL, AL, MRDL, or treatment technique as specified in 12VAC5-590-340.~~

b. The data relating to these contaminants shall be displayed in one table or in several adjacent tables. Any additional monitoring results that an owner of a community waterworks ~~owner~~ chooses to include in the report shall be displayed separately.

c. The data shall be derived from data collected to comply with EPA and state monitoring and analytical requirements during the calendar year preceding the year the report is due, except that where an owner is allowed to monitor for contaminants specified in subdivision C 3 a (1) and 3 a (3) of this ~~subsection~~ section less often than once a year, the ~~table or tables~~ shall include the date and results of the most recent sampling, and the report shall include a brief statement indicating that the data presented in the report are from the most recent testing done in accordance with the regulations. No data older than five years need be included.

d. For detected contaminants subject to a PMCL, ~~action level AL, MRDL,~~ or treatment technique as ~~specified in 12VAC5-590-370 and listed in Tables 2.1, 2.2 (Primary Maximum Contaminant Levels only), 2.3, 2.4 (Primary Maximum Contaminant Levels only), and 2.5 listed in Tables 340.1 through 340.7,~~ the ~~table or tables~~ shall contain:

(1) The PMCL for that contaminant expressed as a number equal to or greater than 1.0 as provided in ~~Appendix O, with an exception for beta/photon emitters. When the detected level of beta/photon emitters has been reported in the units of pCi/L and does not exceed 50 pCi/L, the report may list the PMCL as 50 pCi/L. In this case, the owner shall include in the report the following footnote: The PMCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles~~ 12VAC5-590-546;

(2) The MCLG for that contaminant expressed in the same units as the PMCL as provided in ~~Appendix O~~ 12VAC5-590-546;

(3) If there is no PMCL for a detected contaminant, ~~then the table~~ tables shall indicate that there is a treatment technique, or specify the ~~action level AL,~~ applicable to that contaminant, and the report shall include the definitions for treatment technique ~~and/or action level, AL, or both,~~ as appropriate, specified in subdivision C 3 d of this ~~subsection~~ section;

(4) For contaminants subject to a PMCL, except turbidity and E. coli, the highest contaminant level used to determine compliance and the range of detected levels is as follows:

(a) When compliance with the PMCL is determined annually or less frequently, the highest detected level at

any sampling point and the range of detected levels expressed in the same units as the PMCL.

(b) When compliance with the PMCL is determined by calculating ~~a running annual average~~ an RAA of all samples ~~taken~~ collected at a sampling point, the highest average of any of the sampling points and the range of all sampling points expressed in the same units as the PMCL. For the PMCLs for TTHM and HAA5, the owner shall include the highest ~~locational running annual average~~ LRAA and the range of individual sample results for all sampling points expressed in the same units as the PMCL. If more than one location exceeds the TTHM or HAA5 PMCL, then the owner shall include the ~~locational running annual averages~~ LRAAs for all locations that exceed the PMCL.

(c) When compliance with the PMCL is determined on a ~~systemwide~~ system-wide basis by calculating ~~a running annual average~~ an RAA of all samples at all sampling points, the average and range of detection expressed in the same units as the PMCL. The range of detection for TTHM and HAA5 shall include the individual sample results ~~for the IDSE conducted under 12VAC5-590-370 B 3-e (2) for the calendar year that the IDSE samples were taken for the purpose of establishing the monitoring locations for EPA's "Stage 2 Disinfectants and Disinfection Byproducts Rule" initial distribution system evaluation.~~

(5) For turbidity, the highest single measurement and the lowest monthly percentage of combined filter samples meeting the turbidity limits specified in ~~12VAC5-590-420~~ 12VAC5-590-395 A 2 b for the filtration technology being used. The report should include an explanation of the reasons for measuring turbidity;

(6) For lead and copper, the 90th percentile value of the most recent round of sampling and the number of sampling sites exceeding the ~~action level~~ AL;

(7) For E. coli, the total number of positive samples; and

(8) The likely source or sources of the detected contaminants. Specific information regarding contaminants may be available in sanitary surveys and source water assessments, and should be used when available to the owner. If the owner lacks specific information on the likely source, then the report shall include one or more of the typical sources for that contaminant listed in ~~Appendix O 12VAC5-590-546~~ that are most applicable to the system.

e. If the owner of a community waterworks ~~owner~~ distributes water to ~~his~~ the owner's customers from multiple hydraulically independent distribution systems that are fed by different ~~raw water sources~~ source waters, then:

(1) The table shall contain a separate column for each service area and the report shall identify each separate distribution system; or

(2) The owner shall produce a separate report tailored to include data for each service area.

f. The table ~~or tables~~ shall clearly identify any data indicating violations of PMCLs, MRDLs, or treatment techniques and the report shall contain a clear and readily understandable explanation of the violation including:

(1) The length of the violation;

(2) The potential adverse health effects using the relevant language of ~~Appendix O~~ 12VAC5-590-546; and

(3) Actions taken by the ~~waterworks~~ owner to address the violation.

~~g. For detected unregulated contaminants subject to monitoring as specified in 12VAC5-590-370 and listed in Tables 2.6 and 2.7, for which monitoring is required, the table or tables shall contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.~~

4. Information on Cryptosporidium, radon, and other contaminants:

a. If the owner has performed any monitoring for Cryptosporidium, which indicates that Cryptosporidium may be present in the source water or the finished water, then the report shall include:

(1) A summary of the results of the monitoring; and

(2) An explanation of the significance of the results.

b. If the owner has performed any monitoring for radon, which indicates that radon may be present in the finished water, then the report shall include:

(1) The results of the monitoring; and

(2) An explanation of the significance of the results.

c. If the owner has performed additional monitoring that indicates the presence of other contaminants in the finished water, then the report should include any results that may indicate a health concern, as determined by the commissioner [or department]. Detections above a proposed MCL or health advisory level may indicate possible health concerns. For ~~such~~ these contaminants, the report should include:

(1) The results of the monitoring; and

(2) An explanation of the significance of the results noting the existence of a health advisory or a proposed regulation.

5. Compliance with other regulations. ~~a.~~ In addition to the requirements of subdivision C 3 f of this ~~subsection~~ section, the report shall note any violation that occurred during the year covered by the report of a requirement listed ~~below~~; in this subdivision 5:

Regulations

- (4) a. Monitoring and reporting of compliance data;
- (2) b. Filtration and disinfection prescribed by ~~12VAC5-590-420~~ 12VAC5-590-395. For ~~owners~~ an owner who ~~have~~ has failed to install adequate filtration or disinfection equipment or processes; or ~~have~~ has had a failure of such equipment or processes ~~which~~ that constitutes a violation, the report shall include the following language as part of the explanation of potential adverse health effects: "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches";
- (3) c. Lead and copper control requirements prescribed by ~~12VAC5-590-370~~ 12VAC5-590-375. For ~~owners who fail that fails~~ to take one or more of the prescribed actions, the report shall include the applicable language of Appendix O ~~12VAC5-590-546~~ for lead, copper, or both;
- (4) d. Treatment techniques for Acrylamide ~~acrylamide~~ and Epichlorohydrin ~~epichlorohydrin~~ prescribed by ~~12VAC5-590-420-G~~ 12VAC5-590-395 B. For ~~owners~~ an owner who ~~violate~~ violates the requirements of that section, the report shall include the relevant language from Appendix O; ~~12VAC5-590-546~~;
- (5) e. Recordkeeping of compliance data;
- (6) f. Special monitoring requirements for ~~unregulated~~ contaminants prescribed by ~~12VAC5-590-370 B-4~~ and for sodium; and
- (7) g. Violation of the terms of a variance, an exemption, or an administrative or judicial order.
- b. The report shall contain:
- (1) ~~A clear and readily understandable explanation of the violation;~~
- (2) ~~Any potential adverse health effects; and~~
- (3) ~~The steps the owner has taken to correct the violation.~~
- e. For community groundwater systems, the following shall be included:
- (1) ~~A significant deficiency that is uncorrected at the time of the report, or;~~
- (2) ~~An E. coli positive groundwater source sample that is not invalidated at the time of the report.~~
- d. The owner of a community groundwater system shall report annually the information in subdivision 5 e of this subsection until the ODW determines that the significant deficiency or the E. coli positive source water sample has been satisfactorily addressed. The report shall include the following information:
- (1) ~~The nature of the significant deficiency or the source of the E. coli contamination and the date the significant deficiency was identified by the ODW or the date or dates of the E. coli positive source samples.~~

~~(2) If the E. coli contamination has been addressed in accordance with 12VAC5-590-421 and the date of such action.~~

~~(3) The ODW approved plan and schedule for correcting the significant deficiency or E. coli contamination including interim measures, progress to date, and which interim measures have been completed.~~

~~(4) In communities with a large portion of non-English speaking consumers, the notice shall contain information in the appropriate language or languages regarding the importance of the notice or contain a telephone number or address where the consumers may contact the owner to obtain a translated copy of the notice or assistance with the appropriate language.~~

~~(5) For E. coli contamination, the potential health effects language shall be included.~~

~~e. If directed by the ODW, the owner of a community groundwater system with significant deficiencies that have been corrected at the time of the report shall inform his consumers of the significant deficiencies, how the deficiencies were corrected, and the date or dates of correction under subdivisions 5 d (1) through (4) of this subsection.~~

6. Variances and exemptions. If a system waterworks is operating under the terms of a variance or an exemption issued by the commissioner under 12VAC5-590-140 and 12VAC5-590-150, then the report shall contain:

- a. An explanation of the reasons for the variance or exemption;
- b. The date on which the variance or exemption was issued;
- c. A brief status report on the steps the owner is taking to install treatment, find alternative sources of source water, or otherwise comply with the terms and schedules of the variance or exemption; and
- d. A notice of any opportunity for public input in the review evaluation or renewal of the variance or exemption.

7. Additional information.

a. The report shall contain a brief explanation regarding contaminants, which may reasonably be expected to be found in drinking water including bottled water. This explanation shall include the exact language of subdivisions 7 a (1), 7 a (2), and 7 a (3) of this subsection or the owner shall use his own comparable language following approval by the commissioner department. The report also shall include the exact language of subdivision 7 a (4) of this subsection.

(1) The sources of drinking water (both tap water and bottled water) include rivers, lakes or reservoirs, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves

naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

(2) Contaminants that may be present in source water include: (i) microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; (ii) inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (iii) pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; (iv) organic chemical contaminants, including ~~synthetic and volatile organic chemicals~~ SOCs and VOCs, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and (v) radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

(3) ~~In order to~~ To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in the water provided by public water systems waterworks. ~~FDA~~ The U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

(4) Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling ~~the Environmental Protection Agency's~~ EPA's Safe Drinking Water Hotline (800-426-4791).

b. The report shall include the telephone number of the owner, operator, or designee of the community waterworks as a source of additional information concerning the report.

c. In communities with a large proportion of ~~non-English speaking~~ non-English-speaking residents, as determined by the ~~commissioner~~ department, the report shall contain information in the appropriate ~~language or~~ languages regarding the importance of the report or contain a telephone number or address where ~~such~~ the residents may contact the ~~system waterworks~~ to obtain a translated copy of the report or assistance in the appropriate language.

d. The report shall include the following information about opportunities for public participation in decisions that may affect the quality of the drinking water. The ~~waterworks~~ owner should consider including the following additional relevant information:

(1) The time and place of regularly scheduled board meetings of the governing body ~~which~~ that has authority over the waterworks; and

(2) If regularly scheduled board meetings are not held, then the name and telephone number of a waterworks representative who has operational or managerial authority over the waterworks.

e. The owner may include ~~such~~ deemed additional information as ~~he deems~~ deemed necessary for public education consistent with, and not detracting from, the purpose of the report.

f. For a community groundwater system:

(1) Where there is a significant deficiency that is uncorrected at the time of the report or an E. coli-positive source water sample that is not invalidated in accordance with 12VAC5-590-380 at the time of the report, the owner shall report the following:

(a) The nature of the significant deficiency or the source water, if known, of the E. coli contamination;

(b) The date the significant deficiency was identified by the department or the date or dates of the E. coli-positive source water samples;

(c) Whether the E. coli contamination has been addressed in accordance with 12VAC5-590-421 and the date of the action;

(d) The department-approved plan and schedule, including interim measures, progress to date, and which interim measures have been completed for correcting the significant deficiency or E. coli contamination; and

(e) The potential health effects language in 12VAC5-590-546 for an E. coli-positive source water sample that is not invalidated in accordance with 12VAC5-590-380.

(2) If directed by the department, where there are significant deficiencies that have been corrected at the time of the report, then the owner shall report the significant deficiencies, how the deficiencies were corrected, and the date or dates of correction.

D. Additional health information.

1. All reports shall prominently display the following language: Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer who are undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. ~~EPA/CDC~~ EPA and Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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2. ~~Any waterworks~~ The owner who that detects arsenic at levels above 0.005 mg/L, but equal to or below the PMCL of 0.010 mg/L, shall include in his the report the following informational statement about arsenic: "While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems."

~~In lieu~~ Instead of the statement required in this subdivision, the ~~waterworks~~ owner may include ~~his own~~ the owner's educational statement after receiving approval from the ~~commissioner~~ department.

3. ~~A waterworks owner who detects arsenic levels above 0.010 mg/L shall include the health effects language contained in Appendix O.~~ 4. ~~An~~ The owner who that detects nitrate at levels above 5 mg/L, but below the PMCL, shall include in his the report the following informational statement about the impacts of nitrate on children: "Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, then you should ask advice from your health care provider."

~~In lieu~~ Instead of the statement required in this subdivision, the ~~waterworks~~ owner may include ~~his the owner's~~ own educational statement after receiving approval from the ~~commissioner~~ department.

~~5.~~ 4. All reports shall prominently display the following language: "If present, elevated levels of 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, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, then you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791)."

~~In lieu~~ Instead of the statement required in this subdivision, the owner may include [~~his~~] own the owner's educational statement after receiving approval from the ~~commissioner~~ department.

6. ~~Community waterworks owners who detect TTHM above 0.080 mg/L, but below the PMCL, as an annual average shall include health effects language prescribed by paragraph 82 of Appendix O.~~

E. ~~Community~~ The owner of a community waterworks ~~owners~~ required to complete a Level 1 or a Level 2 assessment that is not due to an E. coli PMCL violation shall include in the report the text specified in subdivisions E 1, E 2, and E 3 of this section as appropriate, filling in the blanks accordingly, and shall include in the report the text specified in subdivision E 4 of this section, if appropriate.

1. "Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that are found."

2. "During the past year, we were required to conduct (insert the number of Level 1 assessments) Level 1 assessments. (insert the number of Level 1 assessments) Level 1 assessments were completed. In addition, we were required to [take ~~collect~~] (insert the number of corrective actions) corrective actions and we completed (insert the number of corrective actions) of these actions."

3. "During the past year (insert the number of Level 2 assessments) Level 2 assessments were required to be completed for our waterworks. (insert the number of Level 2 assessments) Level 2 assessments were completed. In addition, we were required to [take ~~collect~~] (insert the number of corrective actions) corrective actions and we completed (insert the number of corrective actions) of these actions."

4. ~~Any~~ An owner ~~who that~~ failed to complete all of the required assessments or correct all identified sanitary defects shall also include one or both of the following statements, as appropriate:

a. "During the past year, we failed to conduct all of the required assessments."

b. "During the past year, we failed to correct all identified sanitary defects that were found during the assessments."

F. ~~Community~~ The owner of a community waterworks ~~owners~~ required to conduct Level 2 assessments due to an E. coli PMCL violation shall include in the report the text specified in subdivisions F 1 and F 2 of this section, filling in the blanks accordingly, and shall include in the report the text specified in subdivision F 3 of this section, if appropriate.

1. "E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found E. coli, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that are found."

2. "We were required to complete a Level 2 assessment because we found E. coli in our waterworks. In addition, we were required to [take ~~collect~~] (insert number of corrective actions) corrective actions and we completed (insert number of corrective actions) of these actions."

3. Any owner ~~who that~~ has failed to complete the required assessment or correct all identified sanitary defects shall also include one or both of the following statements, as appropriate:

- a. "We failed to conduct the required assessment."
- b. "We failed to correct all sanitary defects that were identified during the assessment that we conducted."

4. If a ~~waterworks detects~~ E. coli is detected in a waterworks and has violated the E. coli PMCL is violated, in addition to completing the table as specified in subdivision C 3 d of this section, the owner shall include one or more of the following statements to describe any noncompliance, as applicable:

- a. "We had an E. coli-positive repeat sample following a total coliform-positive routine sample."
- b. "We had a total coliform-positive repeat sample following an E. coli-positive routine sample."
- c. "We failed to ~~take collect~~ all the required repeat samples following an E. coli-positive routine sample."
- d. "We failed to test for E. coli when any repeat sample tested positive for total coliform."

5. If a ~~waterworks detects~~ E. coli is detected in a waterworks and has not violated the E. coli PMCL is not violated, in addition to completing the table as specified in subdivision C 3 d of this section, the owner may include a statement that explains that although ~~they have detected~~ E. coli, they are was detected, the owner is not in violation of the E. coli PMCL.

G. Report delivery and recordkeeping.

1. ~~Each~~ The owner of a community waterworks owner shall mail or otherwise directly deliver one copy of the report to each customer, except as follows:

- a. ~~Owners of community waterworks~~ The owner serving fewer than 10,000 persons shall have the option to either mail (or otherwise directly deliver) a copy of the report to each customer or publish the report in a local newspaper

or newspapers of general circulation serving the area in which the waterworks is located by July 1 of each year; and

b. If the owner chooses to publish the report, then the owner shall inform customers, either in the newspaper in which the report is to be published or by other means approved by the ~~commissioner~~ department, that a copy of the report will not be mailed to them and that a copy of the report will be made available to the public upon request.

2. ~~Community~~ The owner of a community waterworks owners shall make a good faith effort to deliver the report to the consumers who are served by the waterworks but are not ~~bill-paying~~ bill-paying customers, such as renters or workers. This good faith effort shall include at least one, and preferably two or more, of the following methods appropriate to the particular waterworks:

- a. Posting the reports on the Internet;
- b. Mailing to postal patrons in metropolitan areas;
- c. Advertising the availability of the report in the news media;
- d. ~~Publication~~ Publishing in a local newspaper;
- e. Posting in public places such as libraries, community centers, and public buildings;
- f. ~~Delivery of~~ Delivering multiple copies for distribution by single-biller customers such as apartment buildings or large private employers;
- g. ~~Delivery~~ Delivering to community organizations; or
- h. Other methods as approved by the ~~commissioner~~ department.

3. No later than July 1 of each year, the owner of a community waterworks owners shall deliver a copy of the report to the ~~district engineer~~ department, followed within three months by a certification that the report has been distributed to customers and that the information in the report is correct and consistent with the compliance monitoring data previously submitted to the ~~commissioner~~ department.

4. No later than July 1 of each year, the owner of a community waterworks owners shall deliver the report to any other agency or clearinghouse specified by the ~~commissioner~~ department.

5. ~~Community~~ The owner of a community waterworks owners shall make the report available to the public upon request.

6. The owner of ~~each~~ a community waterworks serving 100,000 or more persons shall post the current year's report to a publicly accessible site on the Internet.

7. ~~Community~~ The owner of a community waterworks owners shall retain copies of the report for no less than three years.

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12VAC5-590-546. Regulated contaminants for the consumer confidence reports and public notification.

A. Public notices and CCRs shall contain the appropriate mandatory language and information listed, as required by 12VAC5-590-540 and 12VAC5-590-545.

B. Information on regulated contaminants is presented in Table 546.1.

EDITOR'S NOTE: Table 546.1 is not further amended from the proposed regulation, therefore it is not published. View the Table 546.1 as proposed at [36:6 VA.R. 475-845 November 11, 2019](#).

12VAC5-590-550. Recordkeeping.

A. The owner shall maintain all of the waterworks records in accordance with the Records Retention and Disposition Schedule of the Library of Virginia, General Schedule No. 7 for public utility records of county and municipal governments.

All owners B. The owner shall retain at their the waterworks or at a convenient location near their the waterworks the following records for the minimum not less than the time periods specified:

A. Records of microbiological 1. Microbiological analyses and turbidity analyses, including records of any repeat samples taken collected and meeting the criteria for an extension of the 24-hour period for collecting repeat samples as required under 12VAC5-590-380 -- Five years.

B. 2. Chemical Analyses -- 10 years.

3. The following information shall be provided for subdivisions B 1 and B 2 of this section:

- a. Date, place, and time of sampling as well as the name of the person who collected the sample;
- b. Identification of sample (e.g., routine, repeat, confirmation sample, source water, other);
- c. Date of analysis;
- d. Laboratory or person responsible for performing analysis;
- e. Analytical method or technique used; and
- f. Results of the analysis.

C. 4. Individual filter monitoring required under 12VAC5-590-530 E 1 b (2) 12VAC5-590-531 A 2 b -- Three years.

D. 5. Results of Disinfection Profile disinfection profile including raw data and analysis -- Indefinitely.

E. 6. Disinfection Benchmarking benchmarking including raw data and analysis -- Indefinitely.

F. The following information shall be provided for subsections A and B of this section:

1. Date, place, and time of sampling as well as the name of the person who collected the sample;

2. Identification of sample (e.g., routine, check sample, raw water, other);

3. Date of analysis;

4. Laboratory and/or person responsible for performing analysis;

5. Analytical method/technique used; and

6. Results of the analysis.

G. 7. Original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, commissioner department determinations, and any other information required by 12VAC5-590-405 A 1 and 2, B, C, and D; and 12VAC5-590-375 B, C, and D 12VAC5-590-405 A 2, 12VAC5-590-405 B, 12VAC5-590-405 C, and 12VAC5-590-405 D pertaining to lead and copper. Each waterworks owner shall retain the records required by this section for no fewer than -- 12 years.

H. Owners shall keep results 8. Results from the initial round of source water monitoring under 12VAC5-590-420 B 3 a (4) 12VAC5-590-401 B 1 and the second round of source water monitoring under 12VAC5-590-420 B 3 a (2) 12VAC5-590-401 B 2 until three years after bin classification under 12VAC5-590-420 B 3 e (4) 12VAC5-590-401 D 1 for the particular round of monitoring.

I. Owners shall keep any 9. Any notification to the commissioner department that they will not conduct source water monitoring will not be conducted due to meeting the criteria of 12VAC5-590-420 B 3 a (4) for three 12VAC5-590-401 B 4 -- Three years.

J. Owners shall keep the results 10. Results of treatment monitoring associated with microbial toolbox options under 12VAC5-590-420 B 3 d (3) through (7) 12VAC5-590-401 E 3 through 12VAC5-590-401 E 7 and with uncovered finished water reservoirs under 12VAC5-590-420 L 12VAC5-590-415, as applicable, for three -- Three years.

K. 11. Action taken to correct violations of these regulations -- three this chapter-- Three years after last action with respect to violation involved.

L. Owners 12. The owner shall retain completed assessment forms for all Level 1 and Level 2 assessments conducted in accordance with 12VAC5-590-392 C, regardless of who conducts the assessment, and documentation of corrective actions completed as a result of those assessments, or other available summary documentation of the sanitary defects and correction actions taken under 12VAC5-590-392 D for a period not less than five years after completion of the assessment or corrective action, whichever is later.

~~M.~~ 13. Copies of reports, summaries, or communications relating to any sanitary surveys performed -- 10 years following inspection.

~~N.~~ 14. Variance or exemptions granted (and records related thereto) -- ~~five~~ Five years following expiration of the variance or exemption.

~~O. Cross connection~~ 15. Cross-connection control program records -- 10 years.

~~P. Owners of~~ 16. The owner of a waterworks that recycle ~~recycles~~ flow, as stipulated in ~~12VAC5-590-420~~ 12VAC5-590-395 C, shall collect and retain on file the recycle flow information for review and evaluation by the ~~district engineer beginning June 8, 2004~~ department. This information shall be retained for a minimum of 10 years. Information shall include, as a minimum:

- ~~1. a.~~ a. Copy of the recycle notification submitted to the ~~district engineer under 12VAC5-590-530 K~~ department.
- ~~2. b.~~ b. List of all recycle flows and the frequency with which they are returned.
- ~~3. c.~~ c. Average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process, in minutes.
- ~~4. d.~~ d. Typical filter run length and a written summary of how the filter run length is determined.
- ~~5. e.~~ e. The type of treatment provided for the recycle flow.
- ~~6. f.~~ f. Data on the physical dimensions of the equalization ~~and/or~~ or treatment units, typical and maximum hydraulic loading rates, type of treatment chemicals used, average dose, frequency of use, and frequency at which solids are removed, if applicable.

~~Q.~~ 17. Copies of monitoring plans developed pursuant to [~~these regulations~~ this chapter] shall be kept for the same period of time as the records of analyses taken under the plan are required to be kept under subsection A or B of this section, except as specified elsewhere in this chapter.

~~R. All owners~~ 18. The owner shall retain the following additional records:

- ~~1. a.~~ a. Plant operational records: -- five years after the end of the calendar year;
- ~~2. Water well completion reports.~~ b. Current organizational or staffing chart;
- ~~3. c.~~ c. Record (As-built) engineering plans and specifications of facilities: -- Retain for the life of the facility;
- ~~4. d.~~ d. Equipment manuals for items in use -- Retain for the life of the equipment or facility;
- ~~4. e.~~ e. Shop drawings of major equipment: in use -- Retain for the life of the equipment;
- ~~5. f.~~ f. Current list or chart of required laboratory tests with test frequencies and sampling locations;

g. Current preventive maintenance schedule;

~~5. h.~~ h. Records of equipment repair or replacement: of equipment in use -- Retain for the life of the equipment;

~~6. i.~~ i. Updated map of water distribution system; and

~~7. j.~~ j. All accident reports -- Three years.

~~S. Additional recordkeeping requirements for groundwater systems~~ C. The owner of a waterworks with groundwater sources shall maintain the following records:

- ~~1. Records of corrective~~ Corrective actions -- 10 years.
- ~~2. Records of public~~ Public notification as required by 12VAC5-590-540 -- 3 years.
- ~~3. Records of invalidation~~ Invalidation of groundwater source samples -- 5 years.
- ~~4. For consecutive waterworks, records of~~ notification to the wholesale waterworks of coliform-positive samples -- 5 years.
- ~~5. For a~~ waterworks required to conduct compliance monitoring:
 - ~~a. Records of the ODW Department-specified minimum~~ disinfectant residual disinfectant -- 10 years.
 - ~~b. Records of the lowest~~ Lowest daily residual disinfectant concentration -- 5 years.
 - ~~c. Records of the dates~~ Dates and duration of any failure to maintain the ~~ODW~~ department-specified minimum residual disinfectant concentration for a period of more than four hours -- 5 years.
 - ~~d. Records of any ODW~~ Department-specified compliance parameters for alternative treatment and records of the date and duration of any failure to meet the alternative treatment operating requirements for more than four hours -- 5 years.

12VAC5-590-560. Safety.

~~Since its trained personnel is the waterworks' most important asset, an important phase of waterworks operation is the protection of personnel through an active safety program; therefore, it is strongly recommended that every waterworks institute a safety program. The owner of a waterworks shall institute a safety program to inform personnel of the known hazards, preventive measures, and emergency procedures pertaining to the operation of the waterworks in accordance with VOSH laws and regulations.~~

12VAC5-590-565. Source water protection.

A. A waterworks owned by a county, city, or town may exercise the authority pursuant to § 15.2-2109 of the Code of Virginia to protect the waterworks from pollution or injury.

B. The owner of a waterworks with a drinking water reservoir may establish a buffer around the intake to limit such uses as

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body contact recreation and boats powered by engines, pursuant to a plan acceptable to the department.

C. The owner of a waterworks should develop a source water protection plan for all the sources and report ongoing or completed protection initiatives to the department.

12VAC5-590-570. Operational report forms reporting requirements.

~~All waterworks required to report information to the department shall use the forms approved by the division.~~

A. Monthly operational reports.

1. A classified waterworks is required to report monthly information to the department no later than the 10th of the month following the month during which the monitoring period occurred.

2. A classified waterworks using conventional filtration shall report using the monthly operating report (MOR) form approved by the department. All other classified waterworks shall report the required information specified in Tables 570.1 through [~~570.13~~ 570.14], based on the treatment processes employed. Monitoring data shall be collected for each day the operating staff attend to the operation of the facilities.

3. To determine if a waterworks using UV reactor systems is operating within validated conditions designed in accordance with 12VAC5-590-1005, the following parameters shall be monitored and reported: (i) on/off status for each reactor; (ii) flow rate through reactor train; (iii) UV intensity as measured by a UV sensor; (iv) lamp status; (v) lamp age; and (vi) UV transmittance. The operational set points shall be reported if set point control is used. The calculated UV dose shall be reported if other than a set point control is used.

4. An unclassified waterworks is required to report quarterly the following information specified in Table 570.1, where applicable, to the department no later than the 10th of the month following the calendar quarter during which the monitoring period occurred.

5. An unclassified waterworks that is using any of the treatment processes described in Tables 570.2 through [~~570.13~~ 570.14] is required to report no later than the 10th of the month following the calendar month during which the monitoring occurred. The report shall contain the required information specified in Tables 570.1 through [~~570.13~~ 570.14] based on the treatment processes employed. The monitoring data shall be collected at a minimum frequency as established by the department.

6. The department may vary the reporting requirements on a case-by-case basis.

EDITOR'S NOTE: Tables 570.1 through 570.14 are not further amended from the proposed regulation, therefore they are not published. View the tables as proposed at [36:6 VA.R. 475-845 November 11, 2019](#).

B. The owner shall report the following incidents within 24 hours to the department:

1. Water pressure below the 20 psi minimum required in the distribution system, including zero or negative pressure. Examples of these events include treatment plant or pump station shutdowns due to equipment failure, power outages, emptying of storage tanks, and draining of the distribution system during fire flow events.

2. Flooding of clearwells.

3. Flooding of groundwater wells.

4. Any other situation that occurs with the waterworks that presents or may present an imminent and substantial threat to public health.

Article 4

Cross-Connection Control and Backflow Prevention in Waterworks

12VAC5-590-580. General requirements for cross-connection control and backflow prevention.

A. ~~The purpose of this article is to require as a condition for the issuance and continued use of the operation permit for the waterworks that each owner of a waterworks~~ Every owner shall establish and enforce a program of cross-connection control and backflow prevention for each waterworks. ~~The cross-connection control and backflow prevention program shall be approved by the division prior to issuance of the operation permit (see Appendix D):~~ cross-connection control program (CCCP) in accordance with 12VAC5-590-360. The goal of the CCCP is to prevent the intrusion of contamination into the distribution system via cross-connections and backflow. [The owner shall document the CCCP activities in a cross-connection control plan and submit the written document to the department for review and approval.]

B. No owner shall install [, maintain,] or allow [~~to be installed~~] a service connection to any premises where cross-connections to a waterworks or a [~~consumer~~ consumer's] water system exist, unless the [owner and department ensure the] cross-connections are adequately safeguarded [~~to the satisfaction of the owner and the department~~].

C. No owner shall install, maintain, or allow [~~to be installed~~] any connection whereby water from an auxiliary water system may enter a waterworks or [~~consumer~~ consumer's] water system, unless the [owner and department approve the] auxiliary water system, the method of connection, and use of such system [~~shall have been approved by the owner and the department~~].

D. The owner, in accordance with 12VAC5-590-510 C, shall maintain acceptable working pressures in the distribution system to reduce the potential for backflow to occur.

12VAC5-590-590. Cross connections. (Repealed.)

~~A. The purveyor shall not install, maintain, or allow to be installed a water service connection to any premises where cross connections to a waterworks or a consumer's water system may exist unless such cross connections are abated or controlled to the satisfaction of the water purveyor or the division.~~

~~B. The purveyor shall not install, maintain, or allow to be installed any connection whereby water from an auxiliary water system may enter a waterworks or consumer's water system unless the auxiliary water system and the method of connection and use of such system shall have been approved by the water purveyor and by the division.~~

12VAC5-590-600. Responsibilities Cross-connection control program responsibilities.

~~A. General. Effective cross connection control requires the cooperation of the water purveyor, the building official, the consumer, the Virginia Department of Health, and the backflow prevention device tester.~~

~~B. Water purveyor:~~

~~1. The purveyor shall establish or cause to be established and operate a cross connection control and backflow prevention program. The owner shall establish and [operate implement] a CCCP consistent with the extent of the distribution system and the [type of consumer consumers] served [by the waterworks]. [The owner shall review the CCCP and written cross-connection control plan not less than every five years and update it as necessary to satisfy the requirements of this chapter. The owner shall submit updates to the department to obtain approval. The department may review the plan upon request.] This program shall include at least one designated individual who shall be responsible for the inspection of the waterworks for cross connection and backflow prevention control, assigned by the owner. Requirements for this position shall include training and experience in cross-connection control programs. This program shall be carried out in accordance with the Uniform Statewide Building Code and shall be a continuing program.~~

~~2. Suggested elements of this program are contained in Appendix I. The purveyor has full responsibility for water quality and for the construction, maintenance, and operation of the waterworks beginning at the water source and ending at the service connection.~~

~~3. The purveyor shall have thorough inspections and operational tests made at least annually of backflow prevention devices which are required and installed at the service connection~~

~~4. In the event of backflow of pollution or contamination into the waterworks, the purveyor shall promptly take or cause corrective action, to confine and eliminate the pollution or~~

~~contamination. The purveyor shall immediately notify the division when backflow occurs.~~

~~5. The purveyor shall take positive action to ensure that the waterworks is adequately protected at all times. If a cross connection exists or backflow occurs into a consumer's water system or if the pressure in the waterworks is lowered below 10 psi gauge, the purveyor may discontinue the water service to the consumer and water service shall not be restored until the deficiencies have been corrected or eliminated to the satisfaction of the purveyor.~~

~~B. The [owner CCCP] shall [establish appropriate policies to complete assessments of consumer water system and shall determine both the degree of hazard and the appropriateness of existing safeguards not be in conflict with the USBC and applicable building code regulations, including 13VAC5-63 or subsequent regulations promulgated by the Board of Housing and Community Development].~~

~~C. The [owner CCCP] shall [establish procedures for completing operational tests or other evaluation procedures as appropriate at least annually and after installation, relocation, or repairs for testable backflow prevention assemblies, devices, and methods that provide containment ensure complete assessments of every consumer's water system and shall determine both the degree of hazard and the appropriateness of existing safeguards to prevent contamination from cross-connections and backflow].~~

~~D. [Instead of annual operational tests (12VAC5 590 600 C) and the related records and inventory of backflow prevention assemblies, backflow elimination methods, and backflow prevention devices (12VAC5 590 600 G), the owner may provide a public education program to residential and commercial consumers whose premise plumbing is not complex and where there are no known or suspected high hazards as identified in Table 630.1. For all other residential consumers, the department may approve a public education program provided by the owner as part of the CCCP. The CCCP shall ensure testing, maintenance, and repairs of all backflow prevention assemblies, backflow elimination methods, and backflow prevention devices required and installed pursuant to 12VAC5-590-610].~~

~~1. The public education program shall be designed to prompt consumer self assessments, increase the awareness of cross-connections, and inform the consumer of the public health hazards of backflow.~~

~~2. The public education program shall describe, at a minimum:~~

~~a. Causes of backflow;~~

~~b. Hazards and health effects of cross connections and backflow;~~

~~c. Resources available to identify actual or potential cross-connections;~~

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~~d. Safeguards to use to eliminate or reduce the hazards at the point of use; and~~

~~e. Sources for additional information.]~~

~~E. [The owner shall discontinue or refuse water service to the consumer to ensure that the waterworks is adequately protected from cross connections and backflow if any of the following conditions occur:~~

~~1. A required backflow prevention assembly or backflow elimination method is not installed, tested, and maintained in accordance with the applicable sections of this chapter;~~

~~2. A required backflow prevention assembly or backflow elimination method is inoperable or has been removed or bypassed; or~~

~~3. An unprotected or inadequately protected cross connection is known to exist on the premises and the owner has determined that there is inadequate backflow prevention at the service connection. 13VAC5-63-530, which incorporates the International Property Maintenance Code into the USBC, requires testing of RPZ assemblies, double check valve assemblies, double check detector backflow assemblies, and pressure vacuum breaker assemblies after initial installation, immediately after repairs or relocation, and annually thereafter. The CCCP shall establish procedures for completing and monitoring operational tests, or other evaluation procedures as appropriate, at least annually, and after installation, relocation, or repairs, for testable backflow prevention assemblies, devices, and methods that provide containment. The CCCP may include a public education program to:~~

~~1. Prompt consumer self-assessments, increase the awareness of cross-connections, and inform the consumer of the public health hazards of backflow.~~

~~2. The public education program, if provided as part of the CCCP, shall include, at a minimum, the following:~~

~~a. Causes of backflow;~~

~~b. Hazards and health effects of cross-connections and backflow;~~

~~c. Resources available to identify actual or potential cross-connections;~~

~~d. Safeguards to use to eliminate or control the hazards at the point of use; and~~

~~e. Sources for additional information.]~~

~~F. [In the event of backflow of contaminants into the waterworks, the owner shall promptly take or cause corrective action to confine and eliminate the contamination. The owner shall report the event to the department within one business day in the most expeditious manner. The owner shall submit a written report by the 10th day of the month following the month during which backflow occurred addressing the incident, its causes and effects, and safeguards required or~~

~~other action taken~~ The CCCP shall provide a method to discontinue or refuse water service to the consumer to ensure that the waterworks is adequately protected from cross-connections and backflow if any of the following conditions occur:

1. The consumer does not install, test and maintain a required backflow prevention assembly or backflow elimination method in accordance with the applicable sections of this chapter;

2. The consumer allows a required backflow prevention assembly or backflow elimination method to become inoperable or the consumer removes or bypasses it; or

3. The owner knows an unprotected or inadequately protected cross-connection exists on the premises and determines that there is inadequate backflow prevention at the service connection].

~~G. [The owner shall maintain an inventory and records of testing, repairs, and maintenance of all backflow prevention assemblies, backflow elimination methods, and backflow prevention devices required and installed under 12VAC5-590-610~~ In the event of backflow of contaminants into the waterworks, the owner shall promptly take or cause corrective action to confine and eliminate the contamination. The owner shall report the event to the department within one business day in the most expeditious manner. The owner shall submit a written report by the 10th day of the month following the month during which backflow occurred addressing the incident, its causes and effects, and safeguards required or other action taken].

~~H. The owner shall maintain [an inventory and] records [related to the CCCP implementation and other records required by the department in accordance with 12VAC5-590-550~~ of testing, repairs, and maintenance of all backflow prevention assemblies, backflow elimination methods, and backflow prevention devices required and installed under 12VAC5-590-610 C. In the case of single-family residences subject to 12VAC5-590-610 C 5, the owner may determine whether or not to maintain an inventory or records. The department recommends the owner follow best practices identified in the AWWA Manual of Water Supply Practices M14 and the EPA Cross-Connection Control Manual].

~~[I. The owner shall maintain an inventory and records of testing, repairs, and maintenance of all backflow prevention assemblies, backflow elimination methods, and backflow prevention devices required and installed under 12VAC5-590-610 E.~~

J. The owner shall maintain records related to the CCCP implementation, and any other records the department requires in accordance with 12VAC5-590-550.]

12VAC5-590-610. Containment ~~policy~~ of backflow.

A. ~~An approved backflow prevention device [Backflow The owner shall ensure installation of backflow] prevention assemblies or backflow elimination methods [shall be installed] (i) at each the service connection to a consumer's water system where, in the judgment of the water purveyor or the division, a health, pollution, or system hazard to the waterworks exists. B. When, as a matter of practicality, the backflow prevention device cannot be installed at the service connection, the device may be or (ii) [located] downstream of the service connection but prior to before any unprotected takeoffs.~~

B. ~~Where the [consumer consumer's] water system is not intricate or complex and where actual or potential cross-connection hazards can be eliminated or [reduced, controlled, instead of containment, the owner may allow consumers to use] point-of-use isolation protection by application of appropriate backflow prevention assemblies, backflow prevention devices, or backflow elimination methods complying with the USBC. [may be used instead of containment.]~~

C. ~~A backflow prevention device assembly or backflow elimination method shall be installed at each service connection to a consumer's water system serving premises where the following conditions exist:~~

1. ~~Premises on which any A substance is handled in such a manner as to create an actual or potential hazard to a waterworks (this shall include premises having sources or systems containing process fluids or waters originating from a waterworks which are no longer under the control of the water purveyor) owner);~~
2. ~~Premises having There exists internal cross-connections cross-connections that, in the judgment of the water purveyor or owner or the division department, may not be easily correctable or have intricate or complex plumbing arrangements which that make it impracticable to determine whether or not cross-connections cross-connections exist;~~
3. ~~Premises where, because of There are security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete cross connection survey that prevent the assessment of all potential cross-connections that may impair the quality of the water delivered;~~
4. ~~Premises having There is a repeated history of cross connections cross-connections being established or reestablished;~~
5. ~~Premises having fire protection systems utilizing combinations of sprinklers, fire loops, storage tanks, pumps, antifreeze protection, or auxiliary water sources including siamese connections (fire loops and sprinkler systems with openings not subject to flooding, and containing no~~

~~antifreeze or other chemicals, no separate fire protection storage, or auxiliary sources, will not normally require backflow prevention); and 6. Other premises specified by the division or the purveyor when cause can be shown that a potential cross-connection hazard not enumerated above exists There are fire protection systems, lawn sprinkler systems, or irrigation systems; [or]~~

~~6. [Cause can be shown by the department or owner The owner or department can show] that a potential cross-connection hazard exists.~~

D. ~~Premises The owner shall ensure that [consumers equip] premises having booster pumps or fire pumps connected to the waterworks [shall be equipped] with a low pressure regulating or cutoff device to shut off the booster pump when the pressure in the waterworks drops to a minimum of 10 psi gauge control devices to prevent a reduction of pump suction line pressure to less than 20 psig.~~

E. ~~An approved A backflow prevention device assembly or backflow elimination method shall be installed at each service connection to a consumer's water system serving, but not necessarily limited to, [consumer water systems serving] the following types of facilities, including:~~

1. Hospitals, mortuaries, clinics, veterinary establishments, nursing homes, and medical buildings;
2. Laboratories;
3. Piers, docks, and waterfront facilities;
4. Sewage treatment plants, sewage pumping stations, or storm water pumping stations;
5. Food and beverage processing plants;
6. Chemical plants, dyeing plants, and pharmaceutical plants;
7. Metal plating industries;
8. Petroleum or ~~natural gas~~ natural-gas processing or storage plants;
9. Radioactive materials processing plants or nuclear reactors;
10. Car washes and laundries;
11. ~~Lawn sprinkler systems, and irrigation systems; 12. Fire service systems; Buildings with commercial, industrial, or institutional occupants served through a master meter;~~
12. Water loading facilities;
13. Slaughter houses and poultry processing plants;
14. Farms where the water is used for other than household purposes;
15. Commercial greenhouses and nurseries;

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16. Health clubs with swimming pools, therapeutic baths, hot tubs, or saunas;

17. Paper and ~~paper products~~ paper-product plants and printing plants;

18. Pesticide or exterminating companies and their vehicles with storage or mixing tanks;

19. Facilities that blend, store, package, transport, or treat chemicals, and their related vehicles;

20. Schools or colleges with laboratory facilities;

~~20. Highrise buildings (four or more stories) 21. Multiuse commercial, office, or warehouse facilities; and 21. [Multistory office and commercial buildings or both with four or more stories, including residential buildings classified by the USBC as commercial; and Highrise buildings (four or more stories);]~~

~~22. [Others specified by the] purveyor [owner or the] division [department when reasonable cause can be shown for a potential backflow or] cross-connection [cross-connection hazard. Multiuse commercial, office or warehouse facilities; and~~

~~[23. Others specified by the owner or the department when reasonable cause can be shown for a potential backflow or cross-connection hazard.]~~

F. All temporary or emergency service connections shall be protected where reasonable cause can be shown for a potential backflow or cross-connection hazard. Backflow prevention assemblies or backflow elimination methods used shall be appropriately certified or approved to match the requirements of this section.

12VAC5-590-620. Type of protection required. (Repealed.)

~~The type of protection required shall depend on the degree of hazard which exists or may exist and on the method of potential backflow. Backflow occurs either by back pressure or by back siphonage.~~

~~The degree of hazard, either high, moderate, or low, is based on the nature of the contaminant; the potential of the health hazard; the probability of the backflow occurrence; and the effect on waterworks structures, equipment, and appurtenances used in the storage, collection, purification, treatment, and distribution of pure water.~~

~~Table 2.10 shall be used as a guide to determine the degree of hazard for any situation.~~

~~A. Air gaps give the highest degree of protection and shall be used whenever practical to do so in high hazard situations subject to back pressure.~~

~~B. An air gap separation and a reduced pressure principle backflow prevention device will protect against back pressure when operating properly. Vacuum breakers will not protect~~

~~against back pressure, but will protect against back siphonage when operating properly.~~

~~C. Backflow prevention devices consisting of dual independent check valves with or without an intermediate atmospheric vent shall only be used in low hazard situations.~~

~~D. Barometric loops are not acceptable.~~

~~E. An interchangeable connection or change over device has limitations which prevent its use where back pressure is present or may occur, the auxiliary supply is not an approved source, or the waterworks line pressure is less than 20 psi. Since this type connection is one of the easiest to bypass, the use of this type device will be approved only as a temporary and continuously supervised arrangement. In most instances, an approved device or method must be included and approved by the purveyor and division.~~

~~F. Reduced pressure principle type backflow preventers shall not be installed in pits or areas subject to flooding.~~

12VAC5-590-630. Backflow prevention assemblies, devices, and backflow elimination methods for containment.

A. Any backflow prevention assembly [~~or device~~] or backflow elimination method [or backflow prevention device] shall be of the approved type and shall comply with the Uniform Statewide Building Code USBC.

B. Any backflow prevention device shall be installed in a manner approved by the water purveyor and in accordance with the Uniform Statewide Building Code.

EDITOR'S NOTE: Text stricken in 12VAC5-590-630 C in the proposed regulation has not been further amended, therefore it is not published. See proposed stricken text at [36:6 VA.R. 475-845 November 11, 2019.](#)

B. General safeguards

1. The backflow prevention assembly [~~or device~~ or] backflow elimination method [or backflow elimination device] used shall depend on the degree of hazard that exists or may exist. The safeguard shall ensure maintenance of the distribution system water quality and its usefulness.

2. The degree of hazard, either high or low, is based on (i) the nature of the contaminant; (ii) the potential of the health hazard; (iii) the potential method of backflow (either by backpressure or by backsiphonage); and (iv) the potential effect on waterworks structures, equipment, and appurtenances used in the storage, collection, purification, treatment, and distribution of potable water. Table 630.1 shall be used as a guide to determine the degree of hazard for any situation.

Table 630.1 Determination of Degree of Hazard	
Cross-connections that meet or may meet the following conditions shall be rated at the corresponding degree of hazard.	
High Hazard	Low Hazard
The contaminant would be toxic, poisonous, noxious, unhealthy, or of unknown quality.	The contaminant would only degrade the quality of the water aesthetically or impair the usefulness of the water.
A health hazard would exist.	A health hazard would not exist.
The contaminant would disrupt the service of piped water for human consumption.	The contaminant would not disrupt service of piped water for human consumption.
Backflow would be by either backpressure or backsiphonage.	Backflow would occur by backsiphonage.
Examples: [lawn irrigation systems, fire sprinkler systems with chemical additives or antifreeze,] sewage, used water, nonpotable water, auxiliary water systems, and mixtures of water and other liquids, gases, or other [toxic or hazardous] chemicals.	Examples: food residuals, [nontoxic chemicals, and nonhazardous chemicals] coffee machines, non-carbonated beverage dispensers, and residential fire sprinkler systems constructed of materials designed for potable water flow].

3. The USBC and the [~~manufacturer~~ manufacturer's] specifications shall be used to determine the appropriateness of the backflow prevention assembly or [backflow prevention] device application for containment.

C. [~~Backflow~~ Owners shall not allow the installation of backflow] prevention devices or [backflow prevention] assemblies with openings, outlets, or vents that are designed to operate or open during backflow prevention [~~shall not be installed~~]:

1. In areas subject to flooding or in pits;
2. In areas with atmospheric conditions that represent a contamination threat to the potable water supply; and
3. In such a manner as to be able to be bypassed.

D. Starting January 1, [~~2022, 2023,~~] persons testing and repairing backflow prevention assemblies and [backflow prevention] devices shall be certified by a Commonwealth of Virginia tradesman certification program (identified by DPOR as backflow prevention device workers). Until January 1, [

~~2022, 2023,~~] persons testing and repairing backflow prevention assemblies and [backflow prevention] devices shall be qualified to perform such work as demonstrated by possessing a certification or license from a local or state agency having legal authority or shall possess a certificate of completion of applicable vocational training acceptable to the owner.

Article 4
General

12VAC5-590-640. General design considerations.

A. Waterworks shall conform with ~~to~~ the Public Water Supply Law, Article 2 of Chapter 6 of Title 32.1 of the Code of Virginia. ~~The engineer shall confer with the division before proceeding with the detailed designs. The engineering report and preliminary plan shall include plant site selection. Ordinarily, Community~~ waterworks shall be designed to provide for the estimated ~~population~~ water demand for 10 to 30 years hence under predicted growth conditions. All waterworks shall be designed so that they can readily be increased in capacity except where circumstances preclude the probability of expansion. Expansion by modular steps should be considered. ~~Operation and maintenance manuals are required for treatment facilities and pumping facilities.~~

B. Waterworks design shall be based on sound engineering practice substantiated in the engineer's design and approved by the [~~commissioner~~ department]. Historical data or typical usage figures of waterworks with similar service area characteristics and appropriate peaking factors shall be used to support the design. USBC and design standards may be referenced for noncommunity waterworks, as appropriate.

1. Community waterworks shall be designed to meet or exceed the estimated maximum daily water demand of the service area at the design year. The design shall account for diurnal demand patterns and special demands placed on the waterworks such as firefighting, industrial use, and wholesale customers.

2. Noncommunity waterworks shall be designed to meet or exceed the peak hour demand of the proposed services. Either pump capacity or storage capacity or both may be utilized to meet the peak hour demand.

3. Effective storage.

- a. Community waterworks shall provide sufficient finished water effective storage to enable the waterworks to meet the estimated maximum daily water demand at the design year. Compliance with this requirement is normally determined by the use of a hydraulic model. In the absence of a hydraulic model, effective storage shall be a minimum of one-half of estimated maximum daily water demand of the waterworks at the design year.

b. There is no minimum finished water effective storage requirement for noncommunity waterworks.

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c. Effective storage of atmospheric storage tanks shall be the volume available to store finished water in atmospheric reservoirs or tanks, measured as the difference between the overflow elevation, or the normal maximum operating level, and the minimum storage elevation. For atmospheric tanks that use a portion of their volume to generate distribution system pressure, the minimum storage elevation is that elevation of water in the tank that can provide a minimum pressure of 20 psig throughout that tank's service area under distribution system-wide maximum daily water demand.

d. Effective storage of pressure storage tanks shall be one-third of the nominal pressure vessel storage capacity.

C. Waterworks shall be designed to provide a minimum residual pressure of 20 psig at all service connections. Design shall be based on the most restrictive conditions, defaulting to the greater of peak hour demand or maximum daily water demand plus applicable fire flows. Fire flow design values shall be identified by the engineer after coordination among the owner, local and state building officials, and fire officials. Distribution system hydraulic modeling may be used to demonstrate compliance with this requirement.

D. Materials used in the construction of waterworks that are in contact with the product water shall comply with [NSF/ANSI Standard 61-2017 NSF/ANSI/CAN Standard 61-2020] or an approved equivalent.

12VAC5-590-650. Objectives of a waterworks. (Repealed.)

A. ~~The objectives of a waterworks are:~~

- ~~1. The production of pure water; and~~
- ~~2. The production of water appealing to the consumer.~~

B. ~~To reach the objectives of a waterworks, finished water quality shall conform with Article 1 of Part II of this chapter.~~

12VAC5-590-660. Site location.

A. ~~Wells and water treatment plants shall be located above the projected 100-year flood plain 100-year flood elevation. Lower elevations~~ A lower elevation may be considered if it can be adequately shown that the wells or treatment plants can be protected from flooding. Site grading and adequate drainage shall be provided. Springs subject to flooding shall not be approved. See 12VAC5-590-840 E for additional well location requirements.

B. The waterworks pumping and treatment facilities shall be readily accessible in all seasons. Access roads shall be provided.

C. ~~Consideration should be given to~~ Functional aspects of the site shall be considered in design, including the convenience of transportation facilities to the plant site and also to the availability of electric power from more than one source of outside power.

12VAC5-590-670. Site size.

A. ~~The area reserved around a well or spring site shall conform with 12VAC5-590-820, 12VAC5-590-830, and to 12VAC5-590-840 D and 12VAC5-590-840 E.~~

B. The treatment plant site shall be of ample size to accommodate expansion, and ample space shall be provided at the treatment site for adequate disposal handling of treatment plant wastes residuals.

C. The disposal of water treatment plant wastes residuals shall conform to the State Water Control Law, Chapter 3.1 of Title 62.1 of the Code of Virginia.

12VAC5-590-680. Treatment process selection and BAT.

A. The following shall be considered when selecting treatment processes to achieve treatment goals: (i) the quality and variability of the source water and (ii) possible future changes in the quality and quantity of the source water.

~~A. The quality and variability of the source water.~~

~~B. Possible future changes in the quality of the source.~~

~~C. Water quality goals, including the growing desire of the public for better water.~~

~~D. When removal of contaminants for which BAT has been specified is necessary, processes classified as BAT shall be employed.~~

~~E. When treatment technique requirements have been established in lieu of MCLs, processes specified by such requirements shall be employed.~~

~~F. POE or POU devices shall not be utilized for long term compliance with PMCLs. Such devices may be considered for short term, interim use, as a condition of a variance or exemption issued by the commissioner.~~

B. The design shall employ best available technologies (BAT) for achieving compliance with the PMCLs for organic chemicals listed in 40 CFR 141.61 and BAT for achieving compliance with the PMCLs for inorganic chemicals listed in 40 CFR 141.62.

C. The design shall employ BAT for achieving compliance with the PMCLs for radionuclides listed in 40 CFR 141.66, including radium-226, radium-228, uranium, gross alpha particle activity, beta particle, and photon radioactivity. The design shall consider the system size and use limitations for specific technologies listed in 40 CFR 141.66.

D. Alternative technologies may be employed when approved by the [commissioner department].

E. When treatment technique requirements have been established instead of PMCLs or ALs, the design shall employ processes specified by these requirements.

F. POU devices shall not be used to achieve compliance with the treatment technique for microbial contaminants. POE or POU devices may be considered for short-term interim use when approved as a condition of a variance or exemption issued by the commissioner.

G. For softening, TDS removal, organics removal, and other treatment purposes, the use of RO and NF shall be in accordance with ANSI/AWWA Standard B114-16, or as allowed by the [~~commissioner~~ department] on a case-by-case basis.

EDITOR'S NOTE: Stricken 12VAC5-590-690 in the proposed regulation has not been further amended, therefore it is not published. See proposed stricken text at [36:6 VA.R. 475-845 November 11, 2019](#).

12VAC5-590-700. Metering total water production.

A. Waterworks providing chlorination only shall meter the water prior to treatment. The design of all community waterworks shall provide metering of total water production.

B. Waterworks providing iron or manganese removal, or both, shall meter the water prior to treatment. The design of all NTNCs that provide treatment or have a design capacity of greater than 300,000 gallons per month shall provide metering of total water production.

C. Waterworks providing softening by ion exchange, shall meter all water treated and total water delivered to the distribution system. D. Waterworks providing turbidity removal or softening by precipitation, or both, shall meter the water prior to and subsequent to treatment. The design of all TNCs that provide treatment or have a design capacity of greater than 300,000 gallons per month shall provide metering of total water production.

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

E. All waterworks shall provide metering of total water production. Metering of total water production at waterworks that do not meet the conditions found in subsections A through D of this section should be provided.

12VAC5-590-710. Site layout. (Repealed.)

- ~~A. Functional aspects of site layout shall be considered.~~
- ~~B. Site grading shall be provided.~~
- ~~C. Adequate site drainage shall be provided.~~
- ~~D. Walks shall be provided.~~
- ~~E. Access roads shall be provided.~~
- ~~F. Driveways shall be provided.~~

12VAC5-590-720. Building layout design and construction.

- ~~A. Adequate ventilation shall be provided.~~
- ~~B. Adequate lighting shall be provided.~~
- ~~C. Adequate heating shall be provided.~~
- ~~D. Adequate drainage shall be provided.~~
- ~~E. Adequate dehumidification equipment shall be provided.~~
- ~~F. Accessibility of equipment for operation, servicing, and removal shall be provided.~~
- ~~G. Flexibility of operation shall be provided.~~

~~H. Safety precautions shall be considered. Reference the applicable health and safety standards of the Virginia Department of Labor and Industry for the appropriate requirements.~~

~~I. Convenience of operation shall be considered.~~

~~J. Separate rooms for chemical storage and feed equipment to reduce dust problems shall be considered.~~

~~K. Sanitary facilities shall be provided at all waterworks installations requiring an operator in attendance at all times during operation.~~

A. In accordance with the USBC, Chapter 6 (§ 36.97 et seq.) of Title 36 of the Code of Virginia, and the Statewide Fire Prevention Code (§ 27.94 et seq.) of Title 27 of the Code of Virginia, all waterworks building design and construction shall include necessary features that will assure a functional and safe environment, including adequate ventilation, lighting, heating, drainage, dehumidification, and accessibility to equipment for operation and maintenance.

B. Consistent with subdivision A of this section, the waterworks building design and layout shall incorporate safety provisions to protect waterworks operators and other personnel, in accordance with Article 1 (§ 40.1-22) of Chapter 3 of Title 40.1 of the Code of Virginia. These provisions must comply with federal occupational safety and health standards and regulations promulgated under 29 USC § 651 et seq. and shall include separation of incompatible chemicals, confined space entry, handrails and guards, ladders, lighting, warning signs, smoke detectors, chlorine leak detectors, protective equipment, safety showers, eye washes, and fire extinguishers.

~~L. C. Positive identification of the contents of a piping system shall be by lettered legend giving the name of the contents. Arrows should shall be used to indicate the direction of flow. Legends shall be applied close to valves, adjacent to changes in direction and branches, where pipes pass through walls and floors, and at frequent intervals on straight pipe runs. The lettering shall be of such color, size, and location so as to be clearly visible and readable.~~

~~M. No conduit or basin containing filtered water shall have a common division wall with another conduit or basin. D.~~

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Common division walls between basins or conduits containing nonpotable water and potable water are prohibited. Vertical double division walls, where separated sufficiently to permit ready access for inspection, are permissible where the division walls are monolithic in construction and are properly keyed into their footings or are cast monolithically with their footings.

E. Shop space and storage [~~requirements~~ facilities] shall be provided.

F. Wherever pipes pass through walls of concrete structures, extra wall castings to facilitate expansion and future uses shall be provided.

12VAC5-590-725. Automated monitoring and control systems.

The design of computers, including supervisory control and data acquisition (SCADA) systems if used to monitor and control water treatment and distribution system facilities, shall meet the following general requirements:

1. Data security.

a. Automated systems used to display and record data or control functions that are connected to the internet shall be secure.

b. Backup power supply shall be provided to allow orderly shutdown of the computer system and prevent corruption of data. The protection shall also power associated communications equipment.

c. Adequate hardware shall be in place to allow a high degree of SCADA and computer system reliability and data security.

d. Adequate hardware and associated facilities shall be provided for data archiving.

2. Equipment protection. SCADA and computer systems shall have adequate protection from voltage surges and spikes on the power supply, external data links, and environmental conditions.

3. Data displaying and recording.

a. SCADA and computer systems used to meet the continuous recording requirements of this chapter shall record an observation on a minimum frequency of once per 15 minutes, unless a greater recording frequency is required.

b. SCADA and computer systems used to meet the indicating and recording requirements of this chapter shall provide displays that show a minimum 24-hour trend of results for each parameter. The display panel shall be located in an area where it can be routinely viewed by the waterworks operators.

c. SCADA and computer systems used to meet the indicating and recording requirements of this chapter shall monitor the values and provide alerts for the operator by

visual display and audible alarms. Alarm conditions shall be recorded into an alarm log.

4. Waterworks pumps, chemical feeders, and other essential electrical equipment controlled through a SCADA or an automated control system shall have the capability for independent manual operation. Where a high degree of reliability is required, a backup control system shall be provided.

12VAC5-590-730. Standby power capability ~~Alternate power sources.~~

Standby power capability may be required by the division so that water may be treated or pumped, or both, to the distribution system in order to maintain a minimum level of service during an emergency.

A. An emergency management plan for extended power outages shall be developed for each community waterworks as specified in 12VAC5-590-505.

B. Alternative power sources at all waterworks shall be considered in the design to maintain a minimum level of service during an electrical power outage.

12VAC5-590-740. ~~Maintenance and servicing of equipment. (Repealed.)~~

Adequate facilities must be provided for the maintenance and servicing of automatic equipment.

12VAC5-590-750. Shop space and storage. (Repealed.)

Adequate facilities should be included for shop space and storage consistent with the designed facilities.

12VAC5-590-760. Laboratory facilities.

Laboratory equipment and facilities shall be compatible with the raw water source, intended design of the water treatment plant, and the complexity of the water treatment involved.

A. Testing equipment provided shall be adequate for the purpose intended and recognized procedures must be utilized. The design of laboratory facilities shall be compatible with the equipment provided, the water supply, and the design and complexity of the water treatment.

B. Sufficient The design of community waterworks and NTNCs shall provide for adequate floor and bench space, adequate ventilation, adequate light, storage room, laboratory sink, and auxiliary facilities shall be provided. Office space is not included in the following specified laboratory sizes: adequate separation of incompatible activities, adequate environmental controls, and auxiliary facilities sufficient to carry out reliable testing.

1. Waterworks providing iron or manganese removal, or softening by ion exchange should provide a laboratory with a minimum of 64 square feet of floor area and 20 square feet of bench area.

~~2. Waterworks providing turbidity removal or softening by precipitation, or both, should provide a laboratory with a minimum of 200 square feet of floor area and 65 square feet of bench area.~~

~~3. Waterworks providing turbidity removal or softening by precipitation, or both, and in plant bacteriological analysis should provide a laboratory with a minimum of 300 square feet of floor area and 100 square feet of bench area.~~

~~C. When a bacteriological laboratory is required a separate room of adequate space shall be provided. Certified analytical laboratory facilities analyzing drinking water shall comply with 1VAC30-41.~~

12VAC5-590-770. ~~Sample taps~~ Sampling and monitoring equipment.

~~A. Sample taps shall be provided so that water samples can be obtained from each water source water and each entry point to the distribution system. At waterworks providing treatment, sample taps shall be provided from each unit operation of treatment, with the taps being located at the master control sink in the laboratory. Taps shall be consistent with sampling needs and shall not be of the petcock type at the entrance and exit of each unit treatment process and at the entry point to the distribution system.~~

~~1. For surface water treatment plants, a master control sink shall monitor source water, chemically treated water, settled water, combined filter water, and at the entry point to the distribution system.~~

~~2. All sample taps shall discharge in the downward direction and be provided with a suitable air gap to prevent cross-connection.~~

~~B. Continuous monitoring instrumentation shall have electronic sensors that continuously read the parameter and shall display results in real time. Continuous recording equipment shall be provided with the monitoring instrument to store in memory or print one data point at least every 15 minutes. Each result shall be a single result at that time; if signal averaging is applied, the averaging period shall not exceed 30 seconds. The recording equipment shall be capable of producing a paper copy or equivalent electronic file showing daily trends, including maximum, minimum, and average values.~~

12VAC5-590-780. ~~Wall castings. (Repealed.)~~

~~Consideration shall be given to providing extra wall castings built into the structure to facilitate expansion and future uses wherever pipes pass through walls of concrete structures.~~

12VAC5-590-790. ~~Water supply service~~ Process water.

~~The water supply service for treatment facilities shall be taken from a point after there has been thorough mixing of all chemicals added to the water. Process water shall be taken from the finished water. An approved backflow prevention assembly~~

~~or device shall be installed on the process water supply pipe before connection to the treatment process or equipment.~~

EDITOR'S NOTE: Text stricken in 12VAC5-590-800 in the proposed regulation has not been further amended, therefore it is not published. See proposed stricken text at [36:6 VA.R. 475-845 November 11, 2019.](#)

12VAC5-590-810. ~~Paints, coatings, sealers, or liners~~ Components, materials, and products.

~~Paints, coatings, sealers or liners which contact raw, partially treated, or potable water and are used in pipes, tanks, or equipment which can convey or store these waters shall be approved by the division before application. All components, materials, and products that will be in contact with source water, partially treated water, finished water, or water treatment chemicals shall comply with [NSF/ANSI Standard 61-2017 NSF/ANSI/CAN Standard 61-2020].~~

~~Article 2
Source Development~~

12VAC5-590-820. ~~General~~ New source water selection and sampling.

~~A. Preference shall be given to the best available sources of supply which that present minimal risks of contamination from wastewaters point and which nonpoint pollution sources that contain a minimum of impurities that may be hazardous to health and that give the greatest potential of ensuring a sufficient quantity of potable water.~~

~~B. In all cases, sources shall be selected and maintained on a basis which that will assure that the water is continuously amenable to available treatment processes. In selecting the source of water to be developed, the designing engineer must own shall prove to the satisfaction of the [commissioner department] that the water which is to be delivered to the consumers shall comply with all applicable PMCLs of the board with respect to bacteriological, physical, chemical and radiological qualities to be delivered to the consumers will comply with 12VAC5-590-340.~~

~~C. All water samples for bacteriological, chemical, physical, and radiological analyses must shall be submitted to the Commonwealth of Virginia, Department of General Services, Division of Consolidated Laboratory Services DCLS or to a testing laboratory certified by the Division of Consolidated Laboratory Services DCLS. All bacteriological analyses must be performed at laboratories in accordance with analysis 12VAC5-590-370 A and 12VAC5-590-480 B-2 Analytical methods shall be in accordance with 12VAC5-590-440.~~

12VAC5-590-840. ~~Groundwater sources.~~

~~A. A groundwater source includes all water obtained from drilled wells and springs. Wells and springs should shall be protected from contamination during construction. All public water supply wells intended to serve a waterworks shall be constructed by registered Virginia contractors a certified water~~

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well system provider. All wells shall be constructed in a manner to protect groundwater resources by preventing contaminated water or water having undesirable physical, chemical, or radiological characteristics from entering ~~potable water~~ aquifers.

B. All wells located within the Eastern Virginia or the Eastern Shore Groundwater Management Areas shall be constructed in a manner to protect groundwater resources by preventing blending or cross contamination of the aquifers.

1. Wells shall not be constructed with screens in multiple aquifers.

2. Geophysical logging and formation sampling shall be required for all wells during construction, in addition to submitting a Uniform Water Well Completion Report, Form GW-2.

3. Observation and production wells shall be constructed with gravel packs and grout in a manner that prevents movement between aquifers. Gravel pack shall be terminated close to the top of the well screens and shall not extend above the top of the screened aquifer. The remainder of the annular space shall be filled with grout material.

4. Pump intake setting shall be documented and the pump intake shall not be set below the top of a confined aquifer or the bottom of an unconfined aquifer that supplies water to the well.

C. All groundwater sources must be analyzed for chemical, physical, radiological, and bacteriological quality in order to determine treatment requirements as described in 12VAC5-590-840 K. Groundwater containing total coliform concentrations of less than 100 and more than three organisms per 100 milliliters based on the geometric mean of 20 or more samples shall be disinfected. Groundwater containing total coliform concentrations of 100 or more organisms per 100 milliliters based on the geometric mean of 20 or more samples constitutes unacceptable contamination for disinfection only. Groundwater with widely fluctuating or increasing bacteriological results may be determined by the division to be unsuitable for disinfection treatment alone.

The class of well to be constructed shall be determined by the division. All well lot, well location, and well construction requirements contained in this section may be varied by the division as specific geologic and site conditions dictate.

1. Minimum well lot D. Wells intended for use as a community waterworks shall be located on a well lot meeting the following minimum requirements:

a. 1. The well lot shall provide a distance of at least 50 feet from the well to all property lines of the well lot. Larger well lots may be required under certain conditions. Fencing of the well lot may be required under certain conditions;

2. The owner shall consider the need for a larger well lot for future expansion, the need to provide security measures such as lot fencing, and the need to establish additional well lots for future use;

b. 3. If the well lot does not adjoin a public road, then an all-weather access road shall be provided and an access easement recorded as part of the well lot;

e. 4. The well lot shall be graded to divert surface runoff away from the well and to prevent ponding on the well lot; and

d. 5. The well lot or lots must and access to the lot shall be located by a survey, and a final plat plan and dedication document prepared and recorded as described in 12VAC5-590-200. The final plat plan must agree with the preliminary plat plan with respect to size and boundaries of the lot or lots selected for well or wells. One of the following must be submitted:

(1) A copy of the plat plan showing that it has been duly recorded and signed by the clerk of the circuit court for the jurisdiction where the well is located and giving the deed book and page number and date of recording will be required before a construction permit can be issued or

(2) If the well lot is identified on a recorded plan of the subdivision as a well lot, then this is acceptable, if recorded as indicated in subdivision A 1 d (1) above; and

e. In addition, a dedication document duly recorded with the clerk of the circuit court must be furnished stating that the well lot shall be used only for waterworks appurtenances as long as this lot is utilized as part of a waterworks.

2. E. Minimum well location requirements:

a. 1. The horizontal distance from the well to any septic tank, purification field sanitary drainfield, pit privy, cesspool, barnyard, hog animal feed lot, cemetery, geothermal well or source of similar contamination, as well as and all surface runoff from such actual or potential sources of contamination, shall be at least 50 feet;

b. 2. The horizontal distances from the well to any pipe carrying sewage or pipe in which sewage can back up shall be at least 50 feet; and

e. The horizontal distance from the well to any petroleum or chemical storage tank or pipe line or similar source of contamination shall be at least 50 feet, except that where plastic type well casing is used, the separation distance shall be at least 100 feet. This 100 foot separation may be obtained by an enlarged well lot, easements, deed restrictions, or other equivalent legal means.

3. A minimum separation distance of 50 feet shall be maintained between a fuel storage tank and a well; however, a lesser distance may be allowed if the fuel is propane or

natural gas, or if it is liquid fuel meeting the following requirements:

- a. Liquid fuel tanks shall be located above grade.
- b. Liquid fuel tanks shall be double-walled with an inner wall leak-detection alarm or single-walled with a full-capacity containment system constructed of compatible material.
- c. Liquid fuel lines shall be located above grade or enclosed in a protective casing if below grade, and liquid fuel tanks shall be provided with a paved and curbed parking pad at the tank filling location.

4. The [commissioner department] shall require a spill response plan if the fuel is stored within 50 ft of the well.

F. The class of well to be constructed shall be determined by the [commissioner department]. A Uniform Water Well Completion Report, Form GW-2, shall be completed and submitted to the department with the project documents, in accordance with procedures in 12VAC5-590-200.

3- 1. Minimum construction requirements for Class I wells:

- a. The well shall be drilled and cased to a depth sufficient to exclude undesirable groundwater, but in no case shall the casing this depth be less than 100 feet in depth; below finished grade.
- b. The diameter of the drill hole to the depth required above shall be at least three inches greater than the outside diameter of the couplings of the casing to be used; and.
- c. For wells constructed in consolidated formations, the lower end of the casing shall terminate in solid rock or other impervious formation when practical to do so.
- e- d. The annular space around the casing shall be grouted to a depth of at least 100 feet in a manner satisfactory to the division [commissioner department]. When the outer casing cannot be removed, the annular spacing between the drill hole and the outer casing shall also be sealed in a manner approved by the division [commissioner department].

4- 2. Minimum construction requirements for Class II wells. This classification includes two types of construction, either of which is acceptable:

- a. Type A wells in which the annular space around the casing is grouted a minimum of 20 feet from the surface:
 - (1) The well shall be drilled and cased to a depth of at least 100 feet; and
 - (2) The cased drill hole shall pass through at least the first 50 feet of unconsolidated formation such as caving sand, gravel or other material that will collapse against the casing;
- b. Type B wells in which the annular space around the casing is grouted:

(4) a. The well shall be drilled and cased to a depth sufficient to exclude undesirable groundwater, but in no case shall the casing be less than 50 feet in length; this depth be less than 50 feet below finished grade.

(2) b. The diameter of the drill hole to the depth required above shall be at least three inches greater than the outside diameter of the couplings of the casing to be used;

(3) ~~The c.~~ For wells constructed in consolidated formations, the lower end of the enlarged portion of the drill hole should terminate in solid rock or other impervious formation when practical to do so; and.

(4) d. The annular space around the casing shall be grouted to a depth of at least 50 feet in a manner satisfactory to the division [commissioner department]. When the outer casing cannot be removed, the annular spacing between the drill hole and the outer casing shall be sealed in a manner approved by the division [commissioner department].

~~B. General well development requirements:~~ G. Well construction materials and development.

1. Water used in well construction shall be from a satisfactory potable water source or from the well under construction.

2. Casing and liner pipe;

a. ~~Shall be metallic pipe meeting ASTM, ANSI, AWWA or API Steel casing and liner pipe shall meet ASTM, [NSF/ANSI NSF/ANSI/CAN], or AWWA specifications and standards applicable to wells. Dimensions shall conform to the following table: Steel pipe dimensions shall conform to Table 840.1.~~

EDITOR'S NOTE: Tables of 12VAC5-590-840 are not further amended from the proposed regulation, therefore they are not published. View the tables as proposed at [36:6 VA.R. 475-845 November 11, 2019.](#)

b. ~~Plastic pipes may be approved following investigation by the division. The casing shall be PVC type 1120 (cell identification 12454), NSF approved for well casings meeting appropriate ASTM, ANSI, AWWA or API specifications and used to depths in conformance with the information contained in the following tables: Plastic well casing shall be PVC meeting ASTM F480-14, [NSF/ANSI Standard 61-2017, NSF/ANSI/CAN Standard 61-2020,] or AWWA Standard [A100-15 A100-20]. Depths shall not exceed the published resistance to hydraulic collapse pressure of the PVC casing, taking into account the installation techniques and grouting methods. Well casing wall thickness shall be sufficient to withstand anticipated formation and hydrostatic pressures and mechanical forces imposed during installation, well development, and use. PVC well casing shall meet the requirements of ASTM, [NSF/ANSI NSF/ANSI/CAN], and AWWA, as applicable.~~

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c. ~~Heavy weight~~ Heavyweight casing pipe may be required under certain geologic and hydrostatic conditions: ~~and,~~

d. Where corrosive conditions exist, materials such as coated casings, stainless steel, bronze, or plastic may be used as casings or linings subject to approval by the ~~division~~ [~~commissioner~~ department], and meeting the ~~requirements of~~ [NSF/ANSI Standard 61-2017 NSF/ANSI/CAN Standard 61-2020].

3. Packers or other well construction materials shall be of a material that will not impart taste, odors, toxic substances, or bacterial contamination to the water in the well. No lead is to be used in packers, flux, piping, etc.

4. Screens, where required, shall:

a. Be constructed of material ~~which~~ that will not be damaged by chemical action of groundwater or future cleaning operations;

b. Have size of openings to be based on sieve analysis of the formation to be screened, and ~~should~~ shall be adequate to pass flows at a velocity of 0.1 ~~foot per second~~ ft/sec or less; and

c. Be installed so that exposure above the pumping level will not occur.

~~5. A water well completion report shall:~~

~~a. Be submitted to the division, the State Water Control Board and the owner; and~~

~~b. Provide all data requested on the most recent well completion form.~~

~~6. The yield and drawdown test data over a 48-hour minimum period shall be provided; however, in those areas where geologic conditions warrant, the required test period may be varied by the division.~~

~~7. Chemical conditioning shall be included in specifications as to method, equipment, chemicals, testing for residual chemicals, disposal of waste, and inhibitors used.~~

~~8. 5. Grouting requirements.~~

~~a. Neat cement grout is normally required and shall consist of cement (API Spec. 10, Class G cement or Class B similar to ASTM C150 TYPE II) shall consist of Portland cement and water with not more than six gallons of water per 94-pound sack of cement, and shall be in place within 48 hours of well construction. A maximum of 6.0%, by weight, bentonite and 2.0%, by weight, calcium chloride, may be added. NOTE: When exceptional conditions require the use of a less fluid grout to bridge voids, a mixture of cement (ASTM C150 TYPE II), 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 94 pound sack of cement may be used if approved by the division; Other grout mixes may be~~

~~approved by the~~ [~~commissioner~~ department] where special conditions warrant.

b. Application.

(1) Grout shall be installed by means of continuous pressure grouting from the bottom of the annular opening upward in one continuous operation until the annular opening is filled.

(2) Sufficient annular opening shall be provided to permit a minimum of 1-1/2 inches of grout around the protective casing, including couplings, if used.

~~(3) Prior to Before~~ grouting, bentonite, Aquagel, or similar approved materials may be added to the annular opening, in the manner indicated for grouting; and wells, suitable fill material such as bentonite, low-strength cement and sand mix, or similar materials that have been approved by the [~~commissioner~~ department] shall be added to the annular opening below the grout zone to seal and stabilize these areas. Instead of this requirement, the casing may be grouted for its entire depth.

~~c. Protective casing~~ Casing shall be provided with sufficient centralizers attached to the casing to ~~permit~~ allow unobstructed flow and uniform thickness of the grout.

~~9. Plumbness and alignment:~~

~~a. Every well shall be tested for plumbness and alignment;~~

~~b. The test method shall be clearly stated in specifications; and~~

~~c. Excessive kinks and bends shall not be acceptable.~~

~~d. Where plastic well casing is used, the heat of hydration of cement mixtures and the hydraulic collapse pressure of the casing shall be taken into consideration when choosing grout composition and placement in accordance with DEQ guidelines.~~

~~10. 6. To prevent tampering and contamination of the source water, unused wells shall be capped and locked. Watertight welded metal plates, set screw caps, or screw-on caps are acceptable for temporarily capping a well until the pumping equipment is installed.~~

~~H. A well yield and drawdown test shall be performed in accordance with requirements of this subsection. The~~ [~~commissioner~~ department] may require additional pumping wells, observation wells, or longer duration tests where site conditions warrant.

1. The yield and drawdown test duration shall be a minimum of 48 hours. Data to be collected during the yield and drawdown test shall be recorded on the Well Yield and Recovery Report form provided by the department. When the source water requirements for a noncommunity waterworks are determined to be three gpm or less over normal hours of operation, the 48-hour minimum drawdown test may be reduced to no less than 12 hours. Any reduction

shall be approved by the [~~commissioner~~ department] before conducting the test.

2. Discharge from the pumping well shall be conveyed away from the test site to avoid recharge.

3. Where multiple wells are intended to be used, the location and geology of each well in the vicinity shall be evaluated. The [~~commissioner~~ department] shall require that:

a. The yield and drawdown test be performed simultaneously on the multiple wells, or

b. During the yield and drawdown test of the pumping well, the water levels of the neighboring wells shall be monitored. If the water level of the neighboring wells declines in response to the pumping well, then additional evaluation shall be required by a professional engineer or a professional geologist with experience in groundwater source evaluations.

4. The [~~commissioner~~ department] may consider alternative testing methods and analyses as proposed by professional engineers or professional geologists with experience in groundwater source evaluations. Where geological conditions exist that prohibit an accurate determination of well yield using methods prescribed in this subsection, additional testing procedures shall be required on an individual basis and approved by the [~~commissioner~~ department].

5. When an aquifer test is required by DEQ for a well located in a GWMA, the yield and drawdown test may be incorporated into the aquifer test plan protocol if approved by the [~~commissioner~~ department] before conducting the test.

I. Well appurtenances.

1. A sanitary seal shall be provided on the top of the well casing, or a watertight well cap shall be provided when a pitless adapter is installed.

2. The well casing shall extend at least 12 inches above the concrete floor or apron.

3. Where aprons are used, they shall be centered on the well and measure at least six feet by six feet by six inches thick.

4. Provisions shall be made for venting the well casing to the atmosphere. Where vertical turbine pumps are used, vents into the side of the casing may be necessary to provide adequate venting.

5. Each well casing shall be provided with equipment and appurtenances for measuring the water level elevation in the well. Corrosion-resistant materials shall be used. Where necessary, the appurtenances shall be attached firmly to the drop pipe or pump column and in a manner as to prevent entrance of foreign materials.

6. All pitless well units, adapters, and watertight caps shall be listed by the Water Systems Council as certified products, or as approved by the [~~commissioner~~ department].

J. Every new, modified, or reconditioned groundwater well or spring shall be disinfected after placement of the final pumping equipment. Wells shall be disinfected in accordance with AWWA Standard C654-13.

K. Water quality tests. Water quality sampling and analysis shall be conducted for every new, modified, or reconditioned well or spring to determine what treatment, if any, is required. All samples shall be analyzed by DCLS or a testing laboratory certified by DCLS. Water quality analytical methods shall conform to requirements contained in 12VAC5-590-440.

~~11. 1. Bacteriological quality:~~

~~a. Every new, modified, or reconditioned groundwater source shall be disinfected after placement of the final pumping equipment; and~~

~~b. A series of nine consecutive negative samples for bacteriological examination or a series of 20 or more samples for most probable number (MPN) examination is required.~~

~~12. Samples for chemical, physical and radiological analyses shall be submitted on every new, modified, or reconditioned well. The sample must be collected near the end of the pumping test and after the well water has cleared.~~

a. Bacteriological samples for new or deepened wells shall consist of a series of 20 samples collected at a minimum of 30-minute intervals during the last 10 hours of the yield and drawdown test. These samples shall be analyzed for both total coliform density and E. coli density. See 12VAC5-590-380 G for groundwater disinfection treatment requirements, and see 12VAC5-590-430 for surface water influence determinations.

b. Bacteriological samples for modified or reconditioned wells shall consist of two samples collected at least 30 minutes apart, at a minimum, while the pump is in continuous operation. These samples shall be analyzed for both total coliform density and E. coli density. More samples may be required by the [~~commissioner~~ department], depending on the work performed.

2. Samples for new wells shall be collected for chemical, physical, and radiological contaminants listed in Tables 340.1 through 340.4. SOC tests may be waived by the [~~commissioner~~ department] if supported by the source water assessment of vulnerability to contamination. Chemical sampling analysis for a TNC may be limited to nitrate and nitrite only. Samples shall be collected at the end of the yield and drawdown test and after the well water has shown no further change in the clarity of the water. Chemical, physical, and radiological constituent testing for modified or reconditioned wells shall be determined on an individual basis by the [~~commissioner~~ department].

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13. L. Observation wells:

a. 1. Shall be constructed in accordance with the requirements for permanent wells if they are to remain in service after completion of the groundwater study; and of DEQ if they are constructed in a GWMA. Otherwise, they shall be constructed in accordance with [~~12VAC5-590-630~~, 12VAC5-630-420] if they are to remain in service as observation wells after completion of the groundwater study.

b. 2. Shall be protected at the upper terminal to preclude the entrance of contamination.

14. Well abandonment:

a. ~~Observation wells and groundwater sources which are not in use shall be sealed by methods which will restore the controlling geological conditions which existed before they were constructed;~~

b. Temporary abandonment.

(1) ~~Any water well temporarily removed from service, or completed but not put into service, shall be sealed with a watertight cap or well head seal.~~

(2) ~~Such well shall be so maintained that it will not be a source or channel of contamination during temporary abandonment; and~~

e. Permanent abandonment.

(1) ~~All casing and screen materials may be salvaged.~~

(2) ~~The well shall be checked from land surface to the entire depth of the well before it is plugged to ascertain freedom from obstructions that may interfere with plugging (sealing) operations.~~

(3) ~~The well shall be thoroughly chlorinated prior to plugging (sealing).~~

(4) ~~Bored wells shall be completely filled with cement grout or dry clay compacted in place.~~

(5) ~~Wells constructed in unconsolidated formations shall be completely filled with cement grout or clay slurry by introduction through a pipe initially extending to the bottom of the well. Such pipe shall be raised, but remain submerged in grout, as the well is filled.~~

(6) ~~Wells constructed in consolidated rock formations or which penetrate zones of consolidated rock may be filled with sand or gravel opposite the zones of consolidated rock. The top of the sand or gravel fill shall be at least five feet below the top of the consolidated rock. The remainder of the well shall be filled with sand cement grout only.~~

15. M. Sealing of select zones. All zones containing water of undesirable quality or zones to be protected but excluded from final well completion shall be grouted from a point at least five feet above the zone to a point at least five feet below the zone.

C. Special requirements for various groundwater sources:

1. N. Gravel packed wells:

a. 1. The gravel utilized shall be free of foreign material, properly sized, washed, and then disinfected ~~prior to~~ before or during placement;.

b. 2. The gravel refill pipes, when used, shall be incorporated within the pump foundation or concrete apron and terminated with screwed or welded caps at least 12 inches above the ~~pumphouse~~ pump house floor or concrete apron;.

e. ~~Gravel~~ 3. The gravel refill pipes in the grouted annular opening shall be surrounded by a minimum of 1-1/2 inches of grout.

d. ~~Means~~ 4. A means for the prevention of leakage of grout into the gravel pack of the screen shall be provided; and.

e. 5. The minimum protective casing and grouted depth shall be acceptable to the ~~division~~ [commissioner department].

6. Wells located in a GWMA shall have gravel packing installed in accordance with 12VAC5-590-840 B 3.

2. O. Radial water collectors will collector systems shall be considered on an individual basis by the ~~division~~ [commissioner department].

3. ~~Multiple aquifer wells. The annular space between producing aquifers should be grouted to prevent the mixing of waters of different qualities (see subdivision B-15). An approved bentonite material specifically manufactured as a grout may be considered.~~

4. P. Flowing artesian wells located outside a GWMA will be considered on an individual basis by the ~~division~~ an individual basis by the [commissioner department].

5. Springs:

a. ~~Springs may be considered only when it is not possible to develop an acceptable well or other source;~~

b. ~~Springs may be approved only after an extensive sanitary survey and bacteriological, turbidity, chemical, and flow data over a time period sufficient to establish year round quality and quantity. The amount of land required for protection of the spring shall be determined by the division on a case by case basis;~~

e. ~~Springs shall be considered as surface water sources if they are influenced by surface conditions. Indicators of such influence include turbidity, bacteriological, and chemical quality that varies with surface conditions;~~

d. ~~Springs shall be protected from entry of surface water;~~

e. ~~Springs shall be housed in a permanent structure; and~~

f. ~~Springs shall be continuously chlorinated.~~

1. The well shall be equipped with a pitless adapter specifically designed for pressurized artesian wells.

2. Special well construction, casing, and sealing may need to be considered for flowing artesian wells.

Q. Capacity determination of wells used for community waterworks shall meet the daily water demand.

1. Capacity of wells located in consolidated rock formations shall be determined by the well sustainable yield, and the actual installed (production) well pump capacity, whichever value is less. The sustainable yield shall be calculated as follows:

(A x 1440 min/day) / 1.8 = gpd well sustainable yield, where A = well yield (gpm) determined by the yield and drawdown test conducted in accordance with 12VAC5-590-840 H.

2. Capacity of wells located in unconsolidated formations shall be determined by the well yield and the actual installed (production) well pump capacity, whichever value is less.

R. Waterworks serving 50 or more residential connections employing only wells providing the source water shall include at least two wells. If only two wells are provided, then the second well shall be rated for at least 30% of the waterworks permit capacity.

S. The owner of a waterworks serving fewer than 50 residential connections with a single well providing the source water shall provide or have ready access to a replacement pump and other components and materials needed for pump replacement. Instead of this requirement, the owner may provide 48 hours of total finished water storage volume based on the maximum daily water demand.

T. Springs.

1. The water quality of spring sources shall be established by obtaining samples over a period of time agreeable to the [commissioner department] to assess the bacteriological, physical, chemical, and radiological characteristics.

2. Springs shall be housed in a permanent structure and protected from entry of surface water.

3. The amount of land required for protection of the spring source shall be determined by the owner and approved by the [commissioner department].

4. The design of spring sources shall provide for continuous disinfection.

5. The capacity of spring sources shall be determined using actual flow data.

a. Sufficient daily flow data shall be collected to conduct a frequency distribution analysis. The capacity of a spring source is defined as the low flow rate for one day with a projected recurrence period of 30 years (i.e., 30-year, one-day low flow).

b. The Log-Pearson Type III method of frequency distribution analysis shall be used to make the determination, with a minimum of 1,000 daily flow measurements.

c. If sufficient data is not available to conduct the analysis specified in this subsection, then the lowest recorded daily flow rate may be considered to be the spring capacity. Sufficient flow records shall be available to capture the spring flow during drought conditions, and shall be acceptable to the [commissioner department].

Article 3
Processes and Devices

12VAC5-590-850. General Appropriate treatment.

A. The design of water treatment processes and devices facilities shall depend upon the evaluation of the nature and quality of the particular source water to be treated and the desired required quality of the finished water as set forth in Article 1 of Part II, Drinking Water Standards, and Article 2 of Part III, Source Development. All surface water shall receive treatment by chemical addition, for coagulation, flocculation, clarification, filtration, and disinfection unless otherwise approved by the division. Some types of treatment processes may require presedimentation. Operation and maintenance manuals are required. Treatment process selection shall follow the requirements of 12VAC5-590-680.

B. The design of water treatment facilities shall address safety considerations as required in 12VAC5-590-560.

12VAC5-590-860. Chemical application.

Only chemicals authorized in the construction permit or subsequently authorized by the division and in compliance with National Sanitation Foundation Standards 60 and 61 shall be used to treat drinking water or as an additive to drinking water.

A. Plans and specifications shall be submitted for review evaluation and approval, as provided for required in Part I [(12VAC5-590-10 et seq.) (12VAC5-590-200 through 12VAC5-590-220)], and shall include:

1. Descriptions of feed equipment, including maximum and minimum feed ranges;
2. Location of feeders, piping layout, and points of application;
3. ~~Storage~~ Chemical storage and handling facilities;
4. Specifications for chemicals to be used;
5. Operating and control ~~procedures~~ features; and
6. Descriptions of testing equipment and procedures.

B. Chemicals shall be applied to the water at such points and by such means as to:

1. Assure maximum efficiency of treatment;
2. Provide maximum protection to the consumer;
3. Provide maximum safety to operators;

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4. Assure satisfactory mixing of the chemicals with the water;
5. Provide maximum flexibility of operation through various points of application, when appropriate;
6. Prevent backflow or ~~back-siphonage~~ backsiphonage between multiple points of feed through common manifolds; and
7. Provide for the application of pH-affecting chemicals to the ~~raw source water prior to~~ before the addition of the coagulant in turbidity removal processes.

C. Feed equipment.

1. Where chemical feed is necessary for the treatment of the supply source water, such as chlorination, coagulation, or other essential processes: ~~a. A minimum of two feeders shall be provided; and b. A standby unit or combination of units of sufficient capacity, a standby feeder or combination of feeders shall be available to replace provide the required chemical dose with the largest unit during shutdowns feeder out of service.~~

2. Feeders shall be of such design and capacity to meet the following requirements:

a. Feeders shall be able to supply ~~at all times~~ the necessary amounts of chemical at an accurate rate throughout the range of feed; at all times.

b. Proportioning of chemical feed to the rate of flow shall be provided where the water flow is not constant; or where specifically required by the [commissioner department].

c. Positive displacement type solution feed pumps, or gravity feed through ~~rotometers~~ rotameters, shall be used to feed liquid chemicals, but should not normally be used to feed chemical slurries; ~~and.~~

~~d. Chemical solutions shall be prevented from being siphoned into the water supply by:~~

- ~~(1) Providing vacuum relief,~~
- ~~(2) Providing a suitable air gap, or~~
- ~~(3) Other approved devices or piping arrangements;~~

~~e. The service water supply shall be protected from contamination by chemical solutions by:~~

- ~~(1) Equipping the supply line with backflow or back-siphonage prevention devices or~~
- ~~(2) Providing an air gap between supply line and solution tank;~~

~~f. d.~~ Chemical contact materials and surfaces shall be resistant to the aggressiveness of the chemical solution;

~~g. e.~~ Dry chemical feeders shall:

- (1) Measure chemicals volumetrically or gravimetrically;
- (2) Provide effective solution of the chemical in the solution pot;

~~(3) Preferably provide~~ Provide gravity feed from solution pots; and

(4) Completely enclose chemicals to prevent emission of dust to the ~~operation room~~;

~~h. f.~~ No direct connection ~~may~~ shall exist between any sewer and a drain or overflow from the feeder or solution chamber or tank; ~~and.~~

~~i. g.~~ A separate chemical waste tank should be considered.

3. Chemical feed equipment:

a. Shall be located near points of application to minimize length of feed lines;

b. Shall be readily accessible for servicing and repair, and observation of operation; and

c. Shall be located ~~and within a protective curbing~~ provided curbing so that chemicals resulting from equipment failure, spillage, or accidental drainage shall not enter the water in conduits or treatment or storage basins.

4. Control:

a. Feeders ~~may~~ shall be ~~manually or automatically controlled~~ capable of both manual and automatic control with the automatic control reverting to manual control as necessary;

b. ~~The feeders~~ Feeders shall be manually started following shutdown, unless otherwise approved by the ~~division [commissioner department]~~;

c. Automatic chemical dose ~~or~~ controls with residual analyzers ~~may be approved for use and~~ shall provide alarms for critical values; and shall include indicating and recording charts equipment.

5. Solution tanks. All solution tanks shall be manufactured of materials suitable ~~as a for food contact surface: or that~~ meet the requirements of 12VAC5-590-810.

a. Means shall be provided to maintain uniform strength of solution, consistent with the nature of the chemical solution. Continuous agitation ~~is necessary~~ shall be provided to maintain slurries in suspension;

b. ~~Two solution tanks of specific capacity may be required for a chemical to assure continuity of chemical application during servicing;~~ Solution tanks shall be of sufficient number and capacity to assure continuous chemical application during tank servicing, and the access openings shall be curbed and fitted with tight covers.

c. Each tank exceeding 30 gallons in capacity or fixed in place shall be provided with a drain unless other means of dewatering the tank are provided.

(1) ~~No direct~~ Direct connection between any tank or drain and a sewer ~~shall be permitted~~ is prohibited.

- (2) All drains shall terminate at least two pipe diameters, but not less than two inches, above the rim of the receiving sump, conduit, or waste receptacle;
- d. Means shall be provided to indicate the solution level in the tank;
- e. ~~Make-up~~ Process water shall enter the tank above the rim at a distance of two pipe diameters but not less than two inches;
- f. Chemical solutions shall be kept covered.
- ~~(1) Polyphosphate solutions shall be disinfected by carrying a chlorine residual when added to unchlorinated water.~~
- ~~(2) Large tanks with access openings shall have such openings curbed and fitted with tight covers;~~
- g. Subsurface locations for Buried or subsurface chemical storage or solution tanks shall: are prohibited.
- ~~(1) Be free from sources of possible contamination;~~
- ~~(2) Assure positive drainage for groundwaters, accumulated water, chemical spills, and overflows; and~~
- h. Overflow pipes, when provided, shall:
- (1) Be turned downward, ~~with end screened~~ and when located outside, be provided with an appropriately sized screened end to prevent entry of insects and small animals;
- (2) Have free discharge;
- (3) Be located where noticeable; and
- (4) Be directed so as not to contaminate the water or be a hazard to operating personnel.
6. Weighing scales.
- a. Shall be provided for weighing cylinders at all water treatment plants utilizing chlorine gas; for large water treatment plants, indicating and recording type are desirable;
- b. Shall be ~~required for fluoride solution~~ provided for fluorosilicic acid feed systems in conjunction with a ~~loss of weight~~ loss-of-weight recorder;
- c. ~~Should be required~~ Shall be considered for volumetric dry chemical feeders; and
- d. Shall be accurate to measure increments of 0.5% of load.
7. Feed lines.
- a. Shall be as short as possible in length of run and be:
- (1) Of durable, ~~corrosion resistant~~ corrosion-resistant material;
- (2) Easily accessible throughout the entire length;
- (3) Protected against freezing; and
- (4) Readily cleanable;
- b. Shall slope upward from chemical source to feeder, when conveying gases;
- c. Shall introduce corrosive chemicals in ~~such a~~ such a manner as to minimize potential for corrosion;
- d. Shall be designed consistent with scale forming solids depositing properties of the water, chemical solution, or mixture conveyed;
- e. Shall not carry chlorine gas beyond the chlorine feeder room unless the chlorine is under vacuum; ~~and~~
- f. Shall be designed so that liquid alum does not mix with water ~~prior to~~ before the point of application.
8. Service water supply: Process water.
- a. Water used for dissolving dry chemicals, diluting liquid chemicals, or operating chemical feeders shall be:
- (1) ~~Only from~~ From a safe, approved source;
- (2) Protected from contamination by appropriate means;
- (3) Ample in supply and adequate in pressure;
- (4) Provided with means for measurement when preparing specific solution concentrations by dilution; and
- (5) Properly treated for hardness when necessary.
- b. Where a booster pump is required, ~~duplicate equipment~~ a spare pump shall be provided ~~and, when necessary,~~ standby power.
- c. Backflow prevention shall be achieved by appropriate means such as:
- (1) An air gap between the fill pipe and overflow rim of the solution or dissolving tank, and equivalent to two pipe diameters but not less than two inches;
- (2) An approved reduced pressure zone backflow preventer, consistent with the degree of hazard, aggressiveness of chemical solution, back pressure sustained, location, and available means for maintaining and testing the device; or
- (3) A satisfactory vacuum relief device.
- D. Chemicals.
- ~~1. Quality.~~ a. Chemical containers shall be fully labeled to include:
- ~~(1) Chemical name, purity and concentration;~~
- ~~(2) Supplier name and address;~~
- ~~(3) Precautions in handling; and~~
- ~~(4) Requirements of Virginia Department of Labor and Industry, Virginia Occupational Safety and Health Standards for General Industry, section 1910.1200(f).~~
- ~~b. Chemicals shall meet American Water Works Association standards, where applicable, and be stamped or certified accordingly.~~
- ~~c. Provisions may be required for assay of the chemicals delivered where the quality is in doubt.~~
- ~~d. Chemicals having a distinguishing color may be used, providing the coloring material is not toxic in~~

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~~concentrations used and will not impart taste, odor, or color to the water supply.~~

~~2.~~ 1. Storage.

a. Space shall be provided where at least 30 days of chemical supply can be stored ~~in dry storage conditions, based on the average dose and average annual water treatment plant flow rate. Storage shall be~~ at a location that is convenient for efficient handling ~~unless local suppliers and safety. Lesser storage capacity may be approved if the owner can demonstrate that the local suppliers or other conditions indicate lesser storage is adequate will provide an uninterrupted source of chemicals.~~

b. Cylinders of chlorine gas shall be:

- (1) Isolated from operating areas;
- (2) Restrained in position to prevent upset; and
- (3) Stored in rooms separate from ammonia storage.

c. Liquid chemical storage tanks shall:

- (1) Have a liquid level indicator; and
- (2) Have an overflow and a receiving basin or drain capable of receiving accidental spills or overflows.

d. Special precautions shall be taken with: ~~(1) Sodium sodium chlorite; to eliminate any danger of explosion; and, (2) e. Activated carbon, which is a potentially combustible material, requiring isolated, fireproof storage and explosion proof electrical outlets, lights, and motors in areas of dry handling. The following special precautions shall be taken in areas where activated carbon is stored, handled, and fed.~~

- (1) Isolated, cool, and dry areas free from sources of ignition shall be provided for activated carbon storage;
- (2) Electrical equipment, devices, and materials shall comply with applicable codes;
- (3) Ventilation in areas associated with the storage, handling, and feeding of activated carbon shall be localized so as not to cause dust or material to be drawn into other areas; and
- (4) Activated carbon shall not be stored with strong oxidants such as ozone, liquid chlorine (i.e., compressed chlorine gas), and permanganate.

~~e. f.~~ Chemicals shall be stored in covered or unopened shipping containers, unless the chemical is transferred into an approved covered storage unit.

~~f. g.~~ Solution storage or day tanks supplying feeders directly should have sufficient capacity for one day of operation.

~~g. h.~~ Acid storage tanks shall be vented to the outside atmosphere, but not through vents in common with day tanks.

~~3.~~ 2. Handling.

a. Provisions shall be made for measuring quantities of chemicals used to prepare feed solutions.

b. Storage tanks and pipelines for liquid chemicals shall be specific to the chemicals and not for alternates.

c. Chemicals that are incompatible shall not be fed, stored, or handled together.

d. Provisions shall be made for the proper transfer of dry chemicals from shipping containers to storage bins or hoppers ~~in such a way as to minimize to mitigate~~ the quantity of dust ~~which that~~ may enter the room in which the equipment is installed. Control shall be provided by use of:

- (1) Vacuum pneumatic equipment or closed conveyor systems;
- (2) Facilities for emptying shipping containers in special enclosures; or
- (3) Exhaust fans and dust filters ~~which that~~ put the hoppers or bins under negative pressure.

e. Precautions shall be taken with electrical equipment to prevent explosions, ~~particularly in the use of sodium chlorite and activated carbon and other hazards.~~

f. Acids shall:

- (1) Be kept in closed, ~~acid resistant~~ acid-resistant shipping containers or storage units; and
- (2) Not be handled in open vessels, but should be pumped in undiluted form from original containers, through a suitable hose, to the point of treatment or to a covered day tank.

g. Carts, elevators, and other appropriate means shall be provided for lifting chemical containers to ~~minimize~~ mitigate excessive lifting by operators.

h. Provisions shall be made for disposing of empty containers by an approved procedure ~~which that~~ will ~~minimize~~ mitigate exposure to the chemical.

E. Housing.

1. Structures, rooms, and areas accommodating chemical feed equipment shall provide convenient access for servicing, repair, and observation of operation.

2. Floor surfaces shall be smooth and impervious, slip-proof, and well drained ~~with a slope of 1/8 inch per foot, minimum.~~

3. Open basins, tanks, and conduits shall be protected from chemical spills or accidental drainage.

F. Operator safety. Safety provisions shall protect people at the waterworks from chemical exposures in accordance with VOSH laws and regulations.

1. Gases from feeders, storage, and equipment exhausts shall be conveyed to the outside atmosphere, above grade, and remote from air intakes.

2. See 12VAC5-590-1000 and 12VAC5-590-1001 for special provisions for handling and storing chlorine.
3. A plastic bottle of hydrochloric acid (muriatic acid in commercial form) shall be available for ammonia leak detection where ammonia gas is used or stored.
4. At least one pair of rubber gloves with long gauntlets, a dust respirator of a type approved by the Virginia Occupational Safety and Health Standards for General Industry, Section 1910.134 that complies with VOSH laws and regulations for toxic dusts, and an apron or other protective clothing shall be provided for each operator in any shift who will handle dry chemicals.
5. Rubber gloves, clothing protection, and goggles shall be provided for each operator preparing chemical solutions.
6. 5. Facilities such as emergency eye wash and showers shall be provided for washing of the face, gloves, and protective equipment.
7. See 12VAC5-590-1000 E.

12VAC5-590-865. Conventional filtration treatment.

A. Conventional filtration treatment is generally used for surface water sources. It is defined as a series of four processes: coagulation, flocculation, sedimentation, and filtration. The specific design parameters shall consider the water supply characteristics and variability in quality due to seasonal and climatic events.

B. Conventional filtration treatment plants shall provide staged, multiple treatment process units to allow individual units to be taken out of service without disrupting operation.

C. The [commissioner department] may require presedimentation of waters containing high turbidity or organics (as measured by TOC).

1. Presedimentation basins utilizing a coagulant feed shall have hoppers bottoms or shall be provided with continuous sludge removal equipment. The minimum hydraulic detention time shall be three hours. The [commissioner department] may require greater detention times depending on the source water quality and the level of pretreatment required.
2. Presedimentation basins without coagulant feed shall provide a minimum hydraulic detention time of 24 hours. The design shall address future needs for solids removal and handling.
3. Incoming water shall be dispersed across the full width of the line of travel as quickly as possible. Short circuiting shall be minimized. The [commissioner department] may require baffling on large basins.
4. Provisions for bypassing presedimentation basins shall be provided.

5. Surface runoff shall be prevented from entering presedimentation basins or reservoirs.
6. Dikes shall be structurally sound and protected against wind action and erosion.

12VAC5-590-870. Mixing and sedimentation. (Repealed.)

- A. Plants designed for processing surface waters shall:
1. Provide multiple units for coagulation, flocculation, and sedimentation at plants having a rated capacity greater than 100 gallons per minute;
 2. Permit operation of flocculation basins in series or parallel;
 3. Be constructed to permit units to be taken out of service without disrupting operation; and
 4. Provide multiple stage treatment facilities when required by the division.
- B. Water containing high turbidity or coliform organisms may require pretreatment, usually sedimentation, either with or without the addition of chemicals. When pretreatment is used, the following requirements must be met:
1. Presedimentation basins utilizing a coagulant shall have hoppers bottoms or shall be equipped with continuous sludge removal apparatus;
 2. Incoming water shall be dispersed across the full width of the line of travel as quickly as possible; short circuiting must be prevented;
 3. Provisions for bypassing sedimentation basins shall be included; and
 4. Three hours detention is the minimum period required. Greater detention may be required depending on raw water quality.
- C. Flash mixing is the rapid dispersion of chemicals throughout the water to be treated, usually by violent agitation, to enhance coagulation.

1. Turbidity removal plants other than those of the solids contact type shall provide flash mixing facilities.
2. Basins shall be equipped with mechanical mixing devices; other arrangements, such as baffling, may be acceptable only under special conditions. Where mechanical mixing devices are utilized, duplicate units or spare mixing equipment shall be provided.
3. Design parameters:
 - a. The detention period shall not be less than 10 seconds;
 - b. The design of the flash mixing unit should be based upon the mean temporal velocity gradient G (expressed as units of seconds⁻¹). Typical values for G and T are:

T (seconds)	G (seconds ⁻¹)
20	1,000

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30	900
40	700
Longer time	790

For optimization, the engineer should determine the appropriate G value and detention time through experimentation;

e. The point of application of the coagulant shall be at the point of maximum mixing intensity;

d. The physical configuration of the mixing basin shall be designed to eliminate vortexing; and

e. Flash mix units should be designed to allow speed variation throughout at a range of one to three.

4. Properly designed static mixers may be utilized.

D. Flocculation mixing is the agitation of treated water at low velocity gradients for sufficient time to agglomerate coagulated particles.

1. Basin inlet and outlet design shall prevent short circuiting and destruction of floc. A drain and overflow shall be provided. Multiple units shall be provided for continuous operability and each basin shall be designed so that individual basins may be isolated without disrupting plant operation.

2. Design parameters:

a. The minimum detention time shall be 30 minutes;

b. The design of the flocculation units shall be based upon the value of GT (mean temporal velocity gradient in seconds⁻¹) X (detention time in seconds) which is ordinarily in the range of 20,000 to 200,000. The engineer should establish the value of GT through experimentation;

c. Variable speed drive units shall be designed to provide speed variations throughout a range of four to one;

d. To control short circuiting in mechanical flocculators, at least three successive compartments should be provided. In addition, special attention should be given to the ports between compartments to further suppress short circuiting;

e. To accomplish maximum power input and reduce particle shearing, tapered flocculation should be provided;

f. In basins utilizing vertical shaft flocculators, wing walls, or stators shall be provided to prevent vortexing; and

g. The flocculation basins must be so designed that individual basins may be isolated without disrupting plant operation.

3. Flocculation and sedimentation basins shall be as close together as possible. The velocity gradient of the flocculated water through pipes or conduits to settling basins shall not be greater than the velocity gradient utilized in flocculating the water. Where velocity gradient is not used as a design

parameter, the linear velocity in pipes and conduits from the flocculators to the settling basin shall not exceed 0.5 feet per second. Allowances must be made to minimize turbulence at bends and changes in direction.

4. Baffling may be used to provide for flocculation in small plants only after consultation with the division. The design should be such that the velocity gradients noted above may be maintained. Turbidity removal plants other than solids contact shall provide flocculation basins.

5. Safety. Guard rails and adequate lighting shall be provided.

E. Sedimentation shall follow flocculation/mixing. The detention time for effective clarification is dependent upon a number of factors relating to basin design and the nature of the raw water. The number of basins required is dependent upon the plant size, turbidity, color, colloidal matter, and taste and odor causing compounds to be removed.

1. Plants utilizing rapid rate gravity filters in conjunction with conventional sedimentation shall provide a minimum of four hours effective settling (detention) time. Effective settling time shall be calculated using the volume of the basins from the stilling wall to the submerged effluent orifice or weir.

2. Inlets shall be designed to distribute the water equally and at uniform velocities. Open ports, submerged ports, stilling walls, and similar entrance arrangements are required. Where stilling walls are not provided, a baffle shall be constructed across the basin close to the inlet and shall project several feet below the water surface to dissipate inlet velocities and provide uniform flows across the basin.

3. Outlet devices shall be designed to maintain velocities suitable for settling in the basin and to minimize short circuiting. The use of submerged orifices or submerged weirs is required. The maximum velocity gradient in pipes and conduits from the settling basins to the filters shall not exceed that used in flocculation. Where velocity gradient is not used as a parameter the linear velocity in pipes and conduits from settling basins shall not exceed 1.0 foot per second.

4. Rectangular sedimentation basins should be designed with a length to width ratio of at least four to one. Surface overflow rates should be within the range of 0.25 to 0.38 gallons per minute per square foot in processes utilizing flocculation, the lower limit being utilized for cold waters and the higher limit being applied to warm waters.

5. The circular clarifiers of the center feed, peripheral feed, and spiral flow type will be considered on an individual basis.

6. Basins shall be provided with a means for dewatering. Basin bottoms shall slope toward the drain not less than one

foot in twelve feet unless mechanical sludge collection equipment is provided.

7. Superstructures are acceptable at specific plant locations where necessary. In areas where settling basins are subject to high and frequent cross winds, consideration should be given to the provision of windbreaks.

8. The velocity through settling basins shall not exceed 1.0 foot per minute. The basins shall be designed to minimize short circuiting. Baffles shall be provided as necessary to minimize short circuiting.

9. An overflow weir (or pipe) shall be installed which will establish the maximum water level desired on top of the filters. It shall discharge with a free fall at a location where the discharge will be noted.

10. Permanent ladders or handholds shall be provided for safety on the inside walls of basins above the water level. Guard rails shall be included. Flushing lines or hydrants shall not include interconnection of the potable water with nonpotable water.

11. For plants having a capacity of 100 gallons per minute or more, multiple basins are required and shall be so designed that individual basins may be isolated without disrupting plant operation.

12. Mechanical sludge collecting equipment shall be considered for all plants with a capacity of 100 gallons per minute or more.

13. Facilities are required by the State Water Control Board for disposal of sludge (see 12VAC5-590-990). Provision shall be made for the operator to observe or sample sludge being withdrawn from unit.

F. Units that combine softening and clarification are acceptable where water characteristics are not variable and flow rates are uniform. Before solids contact units are considered as clarifiers without softening, specific approval of the division shall be obtained. Clarifiers shall be designed for the maximum uniform rate and shall be adjustable to changes in flow which are less than the design rate and for changes in water characteristics. A minimum of two units is required.

1. A representative of the manufacturer shall supervise the installation and initial operation of each unit.

2. The following equipment shall be provided for plant operation.

- a. Complete outfit of tools and accessories; and
- b. Adequate piping with suitable sampling taps so located as to permit the collection of samples of water from critical portions of the units.

3. Chemical feed requirements are those listed in 12VAC5-590-860.

4. Mixing devices shall be constructed to:

- a. Provide good mixing of the raw water with previously formed sludge particles; and
- b. Prevent deposition of solids in the mixing zone.

5. Flocculation equipment:

- a. Shall be adjustable;
- b. Shall insure that coagulation occurs in a separate chamber or baffled zone within the unit; and
- c. Shall provide a flocculation and mixing period of at least 30 minutes.

6. The sludge equipment shall provide either internal or external sludge concentrators in order to obtain a concentrated sludge with a minimum of waste water.

7. Sludge removal design shall provide that:

- a. Sludge pipes shall be not less than three inches in diameter and so arranged as to facilitate cleaning;
- b. Entrance to sludge withdrawal piping will prevent clogging;
- c. Valves are located outside the tank for accessibility;
- d. The operator may observe or sample sludge being withdrawn from the unit; and
- e. A timeclock with proportional timer shall be provided for automatic blowoff.

8. Cross connections:

- a. Blowoff outlets and drains shall terminate and discharge at a place satisfactory to the division; and
- b. Cross connection control shall be included for the potable water mains used to backflush sludge lines.

9. The detention time shall be established on basis of the raw water characteristics and other local conditions that affect the operation of the unit. Based on design flow rates, the minimum detention time shall be:

- a. Two hours for suspended solids contact clarifiers; and
- b. One hour for the suspended solids contact softeners.

10. Softening units should be designed so that continuous slurry concentrates of 1.0% or more, by weight, can be satisfactorily maintained.

11. Water losses:

- a. Solids contact units shall be provided with suitable controls for sludge withdrawal;
- b. Total water losses should not exceed:
 - (1) Five percent for clarifiers; and
 - (2) Three percent for softening units; and
- c. The solids concentration of sludges bled to waste should be:
 - (1) Three percent by weight for clarifiers,
 - (2) Five percent by weight for softeners.

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12. Units used as clarifiers should be equipped with orifices. Units used for softening should be equipped with either overflow weirs or orifices. Weirs shall be:

- a. Adjustable;
- b. At least equivalent in length to the perimeter of the tank; and
- c. Constructed so that surface water does not travel over 10 feet horizontally to the collection trough.

13. Weir loading:

- a. Weir loading shall not exceed 20 gallons per minute per foot of weir length for units used as softeners; and
- b. Orifices shall produce uniform rising rates over the entire area of the tank and shall provide for an exit velocity not to exceed 1.0 foot per second.

14. Upflow rates shall not:

- a. Exceed 1.75 gpm/ft² of area at the slurry separation line for units used as softeners; or
- b. Exceed 1.0 gpm/ft² of area at the sludge separation line for units used as clarifiers.

15. Consideration shall be given to providing a superstructure to enclose the solids contact unit, to enhance the treatment process, and for the protection of piping and associated sampling valves.

12VAC5-590-871. Coagulation and flocculation.

A. Rapid mixing is the rapid dispersion of chemicals throughout the water to be treated, usually by violent agitation, to promote coagulation.

1. Rapid mix basins or inline static mixers shall be provided.
2. Basins shall be equipped with mechanical mixing devices. Other arrangements, such as baffling, may be acceptable under special conditions and only when approved by the [~~commissioner~~ department]. Where mechanical mixing devices are utilized, duplicate units or spare mixing equipment shall be provided.
3. Rapid mix basins with mechanical mixers should be based upon the mean temporal velocity gradient "G" (expressed as units of seconds⁻¹). The owner's engineer shall submit the basis for the selected velocity gradient considering the chemicals to be added and water temperature. Typical values for G and T are:

TABLE 871.1 Rapid Mix Basin GT Values	
T (seconds)	G (seconds ⁻¹)
<u>20</u>	<u>1,000</u>
<u>30</u>	<u>900</u>
<u>40</u>	<u>700</u>
<u>60</u>	<u>600</u>

a. The point of application of the coagulant shall be at the point of maximum mixing intensity;

b. The physical configuration of the mixing basin shall be designed to eliminate vortexing; and

c. Mechanical mixers should be designed to allow speed variation with a highest speed of at least three times the lowest speed.

B. Flocculation mixing is the agitation of treated water at low velocity gradients for sufficient time to agglomerate coagulated particles.

1. Basin inlet and outlet design shall prevent short circuiting and destruction of floc. A drain and overflow shall be provided. Multiple units shall be provided for continuous operability, and each basin shall be designed so that individual basins may be isolated without disrupting plant operation. Basins shall be arranged to allow for either series or parallel operation.

2. Design parameters:

a. The minimum detention time shall be 30 minutes for water treatment plants employing rapid rate gravity filters, and 20 minutes for water treatment plants using high rate gravity filters. Basin flow-through velocity should not be less than 0.5 ft/min or greater than 1.5 ft/min.

b. The design of the flocculation units shall be based upon the value of GT, which is ordinarily in the range of 20,000 to 200,000. The owner's engineer should establish the value of GT through experimentation.

c. Agitators shall be driven by variable speed drive units with peripheral tip speed of the paddles ranging from 0.5 to 3.0 ft/sec.

d. To control short circuiting in mechanical flocculators, at least three successive compartments should be provided. In addition, special attention should be given to the ports between compartments to further suppress short circuiting.

e. To accomplish maximum power input and reduce particle shearing, tapered flocculation should be provided.

f. In basins utilizing vertical shaft flocculators, wing walls, or stators shall be provided to prevent vortexing.

3. Flocculation and sedimentation basins shall be as close together as possible. The velocity gradient of the flocculated water through pipes or conduits to settling basins shall not be greater than the velocity gradient utilized in flocculating the water. Where velocity gradient is not used as a design parameter, the linear velocity in pipes and conduits from the flocculators to the settling basin shall not exceed 0.5 ft/sec unless otherwise approved by the [~~commissioner~~ department]. Allowances shall be made to minimize turbulence at bends and changes in direction.

4. Baffling may be used for flocculation in small water treatment plants only when approved by the [~~commissioner~~

department]. The design should allow the velocity gradients noted in subdivision B 3 of this subsection to be maintained.

12VAC5-590-872. Sedimentation.

A. The water treatment plant capacity, source water quality, and filtration process used shall be considered in determining the number and design of sedimentation basins.

B. The minimum settling time shall be four hours for water treatment plants employing rapid rate gravity filters, and a minimum of three hours for water treatment plants using high rate gravity filters. Reduced settling times may be approved by the [~~commissioner~~ department] where effective settling is demonstrated. Effective settling time shall be calculated using the volume of the basins from the stilling wall to the submerged effluent orifice or weir, including the volume under launders or finger weirs.

C. Inlets shall be designed to distribute the water equally and at uniform velocities. Open ports, submerged ports, stilling walls, and similar entrance arrangements are required. Port velocities should be in the range of 0.5 to 1.5 ft/sec. Where stilling walls are not provided, a baffle shall be constructed across the basin close to the inlet and shall project several feet below the water surface to dissipate inlet velocities and provide uniform flows across the basin.

D. Outlet weirs or submerged orifices shall be designed to maintain settling velocities in the basin and minimize short circuiting. Outlet weirs and submerged orifices shall be designed as follows:

1. The rate of flow over the outlet weir shall not exceed 20,000 gpd/ft of the outlet launder.
2. Submerged orifices shall not be located lower than three feet below the normal water surface.
3. The entrance velocity through the submerged orifices shall not exceed 0.5 ft/sec.

E. The linear velocity in pipes and conduits from settling basins shall not exceed 1.0 ft/sec.

F. Rectangular sedimentation basins shall be designed with a length-to-width ratio of at least 4:1.

G. Surface overflow rates shall be within the range of 0.25 to 0.38 gpm/ft² in water treatment plants using rapid rate filters, and a maximum of 0.5 gpm/ft² for water treatment plants using high rate filters. Increased surface overflow rates and reduced settling times may be approved by the [~~commissioner~~ department] where effective settling is demonstrated. The length and area between launders and finger weirs may be included in determining length-to-width ratio and overflow rates.

H. Basins shall be provided with a means for dewatering. Basin bottoms shall slope toward the drain not less than one

foot in 12 feet unless mechanical sludge collection equipment is provided.

I. In areas where settling basins are subject to high and frequent cross winds, windbreaks shall be considered. Covers or enclosures shall be considered in locations subject to freezing.

J. The velocity through settling basins shall not exceed 1.0 ft/min. The basins shall be designed to minimize short circuiting. Baffles shall be provided as necessary to minimize short circuiting.

K. Multiple basins shall be provided for continuous operability, and each basin shall be designed so that individual basins may be isolated without disrupting plant operation.

L. Mechanical sludge collecting equipment shall be considered for all plants.

M. Sedimentation basins with tube or plate settlers shall meet the following design requirements:

1. Inlet and outlets shall be designed to maintain velocities suitable for settling in the basin and minimize short circuiting. Plate units shall be designed to ensure even flow distribution across the units.
2. Drain piping from the settler units shall be sized to facilitate a quick flush of the basin and to prevent flooding other portions of the plant.
3. Where units are located outdoors, adequate freeboard shall be provided above the top of the settlers to prevent freezing.
4. The maximum loading for tube settlers shall be two gpm/ft² of cross-sectional area unless higher rates are demonstrated through pilot plant or in-plant demonstration studies.
5. The maximum loading for plate settlers shall be 0.5 gpm/ft² based upon 80% of the projected horizontal plate area.
6. Flushing lines shall be provided to facilitate maintenance and shall be properly protected against backflow or backsiphonage.

12VAC5-590-873. Solids contact treatment units.

A. Solids contact units shall be acceptable for combined flocculation and clarification where source water characteristics are not variable and flow rates are uniform. When approved, these units shall be designed for the maximum uniform rate and shall be adjustable to changes in flow that are less than the design rate and for changes in water characteristics.

B. A minimum of two units shall be provided.

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C. A rapid mix device designed in accordance with 12VAC5-590-871 A shall be provided. Mixing devices shall be constructed to:

1. Provide good mixing of the source water with previously formed sludge particles; and
2. Prevent deposition of solids in the mixing zone.

D. Flocculation equipment designed in accordance with 12VAC5-590-871 B shall:

1. Be equipped with an adjustable drive mechanism;
2. Ensure that coagulation occurs in a separate chamber or baffled zone within the unit; and
3. Provide a flocculation period of at least 20 minutes.

E. The sludge equipment shall provide either internal or external sludge concentrators in order to obtain a concentrated sludge with a minimum of waste water. Sludge removal systems shall provide:

1. Sludge pipe sizes of not less than three inches in diameter;
2. Piping arrangements to prevent clogging and to facilitate cleaning;
3. Valves that are located outside the tank for accessibility;
4. A means to observe or sample sludge being withdrawn from the unit;
5. A time clock with proportional timer with automatic blowoff; and
6. Suitable controls for sludge withdrawal.

F. Cross-connections.

1. Blowoff outlets and drains shall terminate and discharge at a place satisfactory to the [~~commissioner~~ department] ; and
2. Cross-connection control shall be included for the potable water mains used to flush sludge lines.

G. The detention time shall be established on the basis of the source water characteristics and other local conditions that affect the operation of the unit. The minimum detention time shall be two hours for suspended solids contact clarifiers.

H. Orifices shall produce uniform rising rates over the entire area of the tank and shall provide for an exit velocity not to exceed 1.0 ft/sec.

I. Upflow rates shall not exceed 1.0 gpm/ft² of area at the sludge separation line.

12VAC5-590-874. Gravity filtration.

A. At least two gravity filter units shall be provided in conventional filtration treatment plants and direct filtration treatment plants.

B. Filter loading rates shall not exceed 2.0 gpm/ft² of filter area for rapid rate filters and shall not exceed 4.0 gpm/ft² for high rate filters, during normal operation. Alternative loading rates may be approved by the [~~commissioner~~ department] when effective filtration is demonstrated.

C. The filter structure shall be so designed as to comply with the following:

1. The walls within the filter shall be vertical;
2. The filter walls shall not protrude into the filter media;
3. There shall be no common wall between filtered or finished water and any lesser quality water;
4. The filter shall be covered by a superstructure if determined necessary under local climatic conditions;
5. There shall be head room to allow normal inspection and operation;
6. A curb at least four inches high shall surround each filter to prevent floor drainage into the filter;
7. The maximum velocity gradient of treated water in pipes and conduits to the filters shall not exceed that used in flocculation. Where velocity gradient is not used as a design parameter, the linear velocity in pipes and conduits from settling basins to filters shall not exceed 1.0 ft/sec;
8. Influent pipes or conduits, where solids loading is heavy, shall be straight and equipped with cleanouts;
9. Backwash water drain capacity shall be sufficient to carry the maximum flow;
10. Access in the form of walkways not less than 24 inches in width shall be provided to each filter; and
11. The normal operating water surface on a filter shall be at the same hydraulic grade level as the sedimentation basin, if no intermediate treatment process is provided.

D. Backwash water troughs shall be so designed as to provide:

1. Bottom elevation of the trough above the maximum level of expanded media during backwashing;
2. At least a two-inch freeboard inside the trough at the maximum rate of wash;
3. A level top or edge;
4. Spacing so that each trough serves an equal area of each filter; and
5. Maximum horizontal travel of suspended particles to reach the trough not to exceed 3.0 ft.

E. Filter media shall be free from detrimental chemical or bacterial contaminants. Acceptable filter media shall include anthracite coal, silica sand, garnet sand, and GAC. Other natural or synthetic media may be approved by the [~~commissioner~~ department] when pilot-scale or full-scale

demonstration studies demonstrate that the media is capable of meeting the filter effluent turbidity treatment technique requirements in Part II [(12VAC5-590-340 et seq.) (12VAC5-590-395)] of this chapter.

1. Filters may be of single media, dual media, or multimedia design depending upon the water to be treated and the specific filtration process employed. A total media depth of not less than 27 inches shall be provided after cleaning and scraping.

2. Types of filter media:

a. Anthracite coal. A sieve analysis shall be provided. Anthracite media shall have:

(1) An effective size from 0.45 to 0.55 mm with a uniformity coefficient not greater than 1.65 when used alone.

(2) An effective size from 0.8 to 1.2 mm with a uniformity coefficient not greater than 1.85 when used in dual or multimedia filters.

b. Silica sand. A sieve analysis shall be provided. The media shall be clean silica sand having an effective size from 0.35 to 0.55 mm and a uniformity coefficient not greater than 1.65.

c. Garnet sand. A sieve analysis shall be provided. The media shall have an effective size from 0.15 to 0.35 mm.

d. Granular activated carbon (GAC) may be used as a media for filtration. The [commissioner department] may require pilot studies where precursor or organics removal is a treatment objective. The design shall include the following:

(1) GAC media shall meet the basic specifications for filter media contained in this section, except the uniformity coefficient shall not be greater than 2.0. The [commissioner department] may allow larger size media based upon pilot-scale or full-scale demonstration testing. The [commissioner department] may require that a layer of sand media be placed below the GAC.

(2) Provisions shall be made for periodic treatment of GAC filter material for the control of bacteria and other growths.

(3) Provisions shall be made for GAC media replacement or regeneration.

(4) Only materials suitable for use with GAC media filters shall be utilized.

F. Support media.

1. Sand. A sieve analysis shall be provided. A three-inch layer of sand shall be used as a supporting media for the filter media where supporting gravel is used and shall have an effective size from 0.8 to 2.0 mm and a uniformity coefficient not greater than 1.7.

2. Gravel. When used as the supporting media, gravel shall consist of hard, rounded particles and shall not include flat or elongated particles. The coarsest gravel shall be 2-1/2 inches in size when the gravel rests directly on the strainer system and shall extend above the top of the perforated laterals or strainer nozzles. Not less than four layers of gravel shall be provided in accordance with the size and depth distribution specified in Table 874.1.

3. Changes of gravel depths and sizes may be considered by the [commissioner department] where proprietary filter bottoms are proposed.

SIZE	DEPTH
2-1/2 - 1-1/2 inches	5 - 8 inches
1-1/2 - 3/4 inches	3 - 5 inches
3/4 - 1/2 inches	3 - 5 inches
1/2 - 3/16 inches	2 - 3 inches
3/16 - 3/32 inches	2 - 3 inches

G. Filter bottoms and strainer systems. The [commissioner department] may allow deviations from requirements of this subdivision for high rate filters and for proprietary filter bottoms. Porous plate bottoms shall not be used where iron, manganese, or hard water may result in clogging. The design of manifold-type collection systems shall:

1. Minimize loss of head in the manifold and laterals;
2. Assure even distribution of backwash water and an even rate of filtration over the entire area of the filter;
3. Provide a ratio of the area of the final openings of the strainer systems to the area of the filter of about 0.003;
4. Provide a total cross-sectional area of the laterals at about twice the total area at the final openings; and
5. Provide a manifold that has a cross-sectional area which is 1-1/2 to two times the total area of the laterals.

H. Surface wash or air scouring of filters shall be provided.

1. All rotary surface wash devices shall be designed with:
 - a. Provisions for water pressures of at least 45 psig;
 - b. A vacuum breaker or other device or assembly to prevent backsiphonage; and
 - c. Adequate surface wash water to provide 0.5 - 1.0 gpm/ft² of filter area.
2. Air scouring shall provide for:
 - a. An air flow rate of three to five scfm/ft² of filter area when air is introduced in the underdrain. A lower air flow

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rate shall be used when the air scour distribution system is placed above the underdrain.

b. A method for avoiding loss of filter media during backwashing.

c. A fluidization backwash following air scour sufficient to restratify the filter media. The backwash water delivery system shall be in accordance with this section except the rate of flow should not exceed 8.0 gpm/ft² unless operating experience demonstrates that a higher rate is necessary to remove scoured particles from the filter media.

I. Turbidity monitoring.

1. Indicating and recording turbidimeters meeting the requirements of 12VAC5-590-770 B shall be provided for:

a. The source water;

b. The settled water from each sedimentation basin;

c. The filter effluent from each filter; and

d. The CFE.

2. Finished water indicating and recording turbidimeters shall be considered if chemical pH adjustment occurs following filtration.

3. The location of the turbidity sample tap shall allow turbidity to be monitored for both the filtered water and the filter-to-waste water.

4. The design may incorporate an operator selected filter effluent high turbidity alarm.

J. Appurtenances.

1. A sampling tap shall be placed between each filter and the effluent rate-of-flow controller to sample filtered water and filter-to-waste water. The location of sample taps shall allow turbidity to be monitored of both the filtered water and the filter-to-waste water.

2. Indicating and recording loss-of-head gauges shall be provided on all filters having a capacity of greater than 100 gpm. An indicating loss-of-head gauge shall be provided on all filters having a capacity of 100 gpm or less.

3. Indicating and recording rate-of-flow gauges shall be provided on all filters having a capacity of greater than 100 gpm. An indicating and totalizing water meter may be used instead of an indicating and recording gauge on filters having a capacity of 100 gpm or less.

4. Effluent rate-of-flow controllers of the direct acting, indirect acting, or constant rate types shall be provided on each filter.

a. All control devices used shall incorporate an auxiliary shutoff valve in the filter effluent line. Indirect and direct acting effluent rate-of-flow control devices shall start operation from the closed position. Failure of indirect

acting controllers shall not result in any increase in the rate of flow.

b. Filter effluent rate-of-flow control that simply maintains a constant water level on the filter is prohibited.

c. Control devices shall be configured to prevent exceeding the design filter hydraulic loading rate when any filter is taken out of service.

5. Provisions for draining the filter-to-waste (rewash) with appropriate backflow prevention and rate control shall be provided on each filter. The filter-to-waste design flow rate shall be equal to the filtration rate.

6. A high pressure hose and hose rack shall be provided to allow washing down filter walls.

K. Backwash provisions.

1. Filtered or finished water shall be applied uniformly across the filter in an upflow direction to provide at least 50% media expansion during all operating conditions. This will normally require backwash flow rates of up to 20 gpm/ft² depending on media size, media specific gravity, uniformity coefficient, and water temperature.

2. The backwash water shall be provided at the required rate by backwash pumps, backwash water tanks, the high service main, or a combination of these methods. Consideration should be given to including provisions to obtain backwash water from the distribution system or other sources and to supply backwash water during plant start-up or during catastrophic events.

3. At least two backwash water pumps shall be installed unless an alternate means of obtaining backwash water is available.

4. The volume of backwash water provided shall be sufficient to backwash one filter at the design backwash flow rate and duration during the warmest water temperature. This backwash water volume shall be in addition to any other water storage requirements.

5. A backwash water controller or valve shall be provided on the main backwash water supply line to obtain the desired rate of filter wash with the backwash water valves on the individual filters open wide.

6. Consideration shall be given to provide for seasonal adjustments of the backwash flow rate to ensure proper backwashing while preventing media loss and to conserve water.

7. The rate-of-flow indicator on the main backwash water supply line shall be located so that it may easily be read by the operator during the backwashing process.

8. Where backwash water pumps are provided, a means for air release shall be installed between the backwash water pump and the backwash water valve.

L. Other design considerations.

1. Roof drains shall not discharge into the filter or basins and conduits preceding the filters.
2. Provision shall be made for continuous operation of all other filtering units while one filtering unit is out of operation.
3. High rate filtration shall be provided with precise coagulation control. A multiple six-gang stirring machine for performing jar tests shall be provided in addition to one or more of the following means of controlling the coagulation process:
 - a. Zeta potential, as measured by microelectrophoresis.
 - b. Pilot filters. Where dual pilot filters are used, two units shall be provided. Each pilot filter shall consist of a small filter (about six inches in diameter) containing the same type and depth of media as the plant filters. The pilot filter shall be equipped with recording turbidimeters on the effluent to measure the filterability of the water as reflected by turbidity monitoring.
 - c. Streaming current monitor, defined as a continuous sampling instrument that measures the electric current generated when water flows past suspended particles contained in the water.
4. High rate filtration shall be provided with indicating and recording pH monitoring equipment for:
 - a. The source water;
 - b. The rapid mix effluent; and
 - c. The finished water leaving the treatment plant.

12VAC5-590-875. Direct filtration.

- A. Direct filtration is defined as a series of treatment processes, including coagulation and filtration but excluding sedimentation. Direct filtration shall be considered only for treatment of high quality and seasonally consistent surface water sources or GUDI sources.
- B. An in-plant demonstration study or pilot study shall be required to demonstrate acceptable performance of direct filtration. The study shall be conducted over a sufficient time to treat all expected source water conditions throughout the year. The pilot plant filter shall be of a similar type and operated in the same manner as proposed for full-scale operation.
- C. The department may require presedimentation meeting the requirements of 12VAC5-590-865 C to be provided [~~prior~~ (in the treatment sequence)] to direct filtration treatment plants.
- D. Rapid mix coagulation and flocculation shall be provided, meeting the requirements of 12VAC5-590-871.
- E. Filters shall be dual media or multimedia gravity filters. Design of filtration units shall meet requirements for rapid rate or high rate gravity filters in 12VAC5-590-874, including filter

structure, filter media, support gravel, backwash provisions, rate-of-flow control, surface wash, or air scour. Alternative designs may be considered by the department.

F. Turbidity monitoring.

1. Indicating and recording turbidimeters meeting the requirements of 12VAC5-590-770 B shall be provided for:
 - a. The source water;
 - b. The filter effluent from each filter; and
 - c. The CFE.
2. Finished water indicating and recording turbidimeters shall be considered if chemical softening occurs following filtration.

G. Where automatic unit process control is provided, manual override of all automatic features shall be provided.

1. Automatic start-up of treatment plant unit processes is prohibited.
2. Valve actuators shall be provided with manual override capability.

H. The plant design should allow for the future installation of sedimentation basins.

12VAC5-590-880. Filtration Diatomaceous earth filtration.

~~A. Rapid rate gravity filters acceptable for the treatment of water from surface water sources or groundwater sources under the direct influence of surface water.~~

- ~~1. Pretreatment is required where rapid rate gravity filters are utilized. Pretreatment shall include but not be limited to disinfection, coagulation, flocculation, and sedimentation.~~
- ~~2. At least two filtering units shall be provided at plants having a rated capacity of more than 100 gpm and less than 2 MGD. The total number of filters necessary at plants having a rated capacity equal to or greater than 2 MGD may be estimated utilizing the following formula:~~

~~$$N = 2.7 (Q)^{0.5}$$~~

~~(Formula as per Morrell and Wallace from Hardenbergh and Rodie's "WATER SUPPLY AND WASTE DISPOSAL 1960").~~

~~Where N equals number of filter units and Q equals plant capacity in million gallons per day.~~

- ~~3. The design rate of filtration shall be two gallons per minute per square foot of filter area.~~
- ~~4. The filter structure shall be so designed as to comply with the following requirements:~~
 - ~~a. The walls within the filter shall be vertical;~~
 - ~~b. The filter walls shall not protrude into the filter media;~~
 - ~~c. The filter shall be covered by a superstructure if determined necessary under local climatic conditions;~~

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- d. There shall be head room to permit normal inspection and operation;
- e. The filter shall have a minimum depth of 8 1/2 feet as measured from the normal operating water surface to the bottom of the underdrainage system;
- f. A minimum water depth of three feet as measured from the normal operating water surface to the surface of the filter sand;
- g. There shall be a water seal on the effluent line to prevent backflow of air to the filters;
- h. A curb at least four inches high shall surround each filter to prevent floor drainage into the filter;
- i. A hand rail shall enclose each filter or filter bank;
- j. The maximum velocity gradient of treated water in pipes and conduits to the filters shall not exceed that used in flocculation. Where velocity gradient is not used as a parameter, the linear velocity in pipes and conduits from settling basins to filters shall not exceed 1.0 foot per second;
- k. Influent pipes or conduits where solids loading is heavy, or following lime soda softening, shall be straight and equipped with cleanouts.
- l. Washwater drain capacity shall be sufficient to carry the maximum flow;
- m. Access in the form of walkways not less than 24 inches in width shall be provided to each filter; and
- n. The normal operating water surface on a filter shall be at the same hydraulic grade level as the sedimentation basin.

5. Washwater troughs shall be so designed as to provide:

- a. Bottom elevation of the trough above the maximum level of expanded media during washing;
- b. A top elevation of the trough above the filter surface, not to exceed 30 inches;
- c. A two inch freeboard at the maximum rate of wash;
- d. A level top or edge;
- e. Spacing so that each trough serves the same number of square feet of filter area; and
- f. Maximum horizontal travel of suspended particles to reach trough not to exceed three feet.

6. Filter material:

- a. Sand A sieve analysis shall be provided by the design engineer. The media shall be clean silica sand having:
 - (1) A depth of not less than 27 inches and generally not more than 30 inches after cleaning and scraping; and
 - (2) An effective size of from 0.35mm to 0.5mm, depending upon the quality of the raw water and a uniformity coefficient not greater than 1.6.

b. Supporting media for the filter sand A sieve analysis shall be provided by the design engineer. A three-inch layer of torpedo sand shall be used as a supporting media for the filter sand; such torpedo sand shall have:

- (1) An effective size of 0.8mm to 2.0mm; and
- (2) A uniformity coefficient not greater than 1.7.

c. Anthracite A sieve analysis shall be provided by the design engineer. Clean crushed anthracite or a combination of sand and anthracite may be considered on the basis of data specific to the project; this media shall have:

- (1) An effective size from 0.45mm to 0.8mm; and
- (2) A uniformity coefficient not greater than 1.7.

d. Gravel, when used as the supporting media, shall consist of hard, rounded particles and shall not include flat or elongated particles. The coarsest gravel shall be 2 1/2 inches in size when the gravel rests directly on the strainer system, and must extend above the top of the perforated laterals or strainer nozzles. Not less than four layers of gravel shall be provided in accordance with the following size and depth distribution:

SIZE	DEPTH
2 1/2 to 1 1/2 inches	5 to 8 inches
1 1/2 to 3/4 inches	3 to 5 inches
3/4 to 1/2 inches	3 to 5 inches
1/2 to 3/16 inches	2 to 3 inches
3/16 to 3/32 inches	2 to 3 inches

Reduction of gravel depths may be considered upon application to the division where proprietary filter bottoms are proposed.

e. Granular activated carbon—See 12VAC5-590-960 B 6.

7. Porous plate bottoms shall not be used where iron or manganese may clog them or with waters softened by lime. The design of manifold type collection systems shall be such as to:

- a. Minimize loss of head in the manifold and laterals;
- b. Assure even distribution of washwater and an even rate of filtration over the entire area of the filter;
- c. Provide a ratio of the area of the final openings of the strainer systems to the area of the filter of about 0.003;
- d. Provide a total cross sectional area of the laterals at about twice the total area at the final openings; and
- e. Provide a manifold which has a cross sectional area which is 1 1/2 to two times the total area of the laterals.

8. Surface wash facilities are required. Revolving type surface washers shall be provided; however, other types may

be considered. All rotary surface wash devices shall be designed with:

- a. Provisions for water pressures of 45 to 100 psi;
- b. A vacuum breaker or other device to prevent backsiphonage;
- c. Provisions for adequate surface wash water to provide 0.5 to one gallon per minute per square foot of filter area; and
- d. Air washing may be considered.

9. The following shall be provided for every filter:

- a. A sampling tap shall be placed between the filter and the effluent rate of flow controller and shall be equipped with an auxiliary spigot at the point of connection to the effluent line;
- b. Indicating and recording loss of head gauges shall be required on all filters having a capacity of greater than 100 gallons per minute. An indicating loss of head gauge shall be required on all filters having a capacity of 100 gallons per minute or less;
- c. Indicating and recording rate of flow gauges shall be required on all filters having a capacity of greater than 100 gallons per minute. An indicating and totalizing water meter may be used in lieu of an indicating and recording gauge on filters having a capacity of 100 gallons per minute or less;
- d. Effluent rate of flow controllers of the direct acting, indirect acting, constant rate, or declining rate types shall be required on each filter. All control devices used must incorporate an auxiliary shutoff valve in the filter effluent line. Indirect and direct acting effluent rate of flow control devices shall start operation from the closed position; Failure of indirect acting controllers shall not result in any increase in the rate of flow, at the time of failure;
- e. Provisions for draining the filter to waste (rewash) with appropriate measure for backflow prevention are required;
- f. Hose bibb, hose, and suitable rack for storage of hoses are required; and
- g. Indicating and recording turbidimeters on filter effluent with automatic high turbidity alarm are required at all plants having a capacity of 10 MGD or more.

10. Provisions shall be made for washing filters (backwashing) as follows:

- a. A minimum rate of 15 gallons per square foot per minute, consistent with water temperatures and specific gravity of the filter media; a rate of 20 gallons per square foot per minute or more is recommended to provide for adequate expansion of the filter media;
- b. Filtered water shall be provided at the required rate by washwater tanks, a washwater pump, from the high service main, or a combination of these;

- c. Washwater pumps shall be in duplicate unless an alternate means of obtaining washwater is available;
- d. The volume of washwater shall provide for not less than 15 minutes wash of one filter at the design rate of wash;
- e. A washwater controller or valve shall be provided on the main washwater line to obtain the desired rate of filter wash with the washwater valves on the individual filters open wide;
- f. The rate of flow indicator on the main washwater line shall be located so that it can be easily read by the operator during the washing process; and
- g. Where backwash pumps are provided, a means for air release must be provided between the backwash pump and the washwater valve.

11. Miscellaneous:

- a. Roof drains shall not discharge into the filter or basins and conduits preceding the filters;
- b. Provisions must be made for continuous operation of all other filtering units while one filtering unit is out of operation; and
- c. Automatic startup of filtering units is prohibited.

B. High rate gravity filters are acceptable for the treatment of water from surface water sources or groundwater sources under the direct influence of surface water. See 12VAC5-590-890 for design requirements.

C. Slow sand gravity filters are acceptable for the treatment of water from certain surface water sources or certain groundwater sources under the direct influence of surface water.

1. Source restrictions. Raw water quality for application to a slow sand filter without pretreatment shall meet the following requirements:

- a. Not exceed a turbidity level of 5 NTU monthly average or 30 NTU peak day over a one year period;
- b. Not exceed 800 total coliforms in 80% of a minimum of 50 samples taken over a minimum of a 52 week period;
- c. Not exceed an apparent color level of 15 CU monthly average over a one year period; and
- d. Groundwater sources under the direct influence of surface water shall pilot test to determine if the water contains sufficient nutrients for slow sand filtration to be a viable option.

2. Pretreatment. Raw waters that cannot meet the criteria listed in 12VAC5-590-880 C 1 a through c shall be treated to that quality prior to application to a slow sand gravity filter.

- a. Presedimentation may be an appropriate pretreatment depending on the size and specific gravity of the turbidity particles.

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- b. Coarse media filtration of either a horizontal or vertical flow configuration may be appropriate for reducing levels of smaller size particles. Normally such roughing filters would be designed to accommodate periodic media removal, cleaning, and replacement.
 - e. Chemical flocculation and coagulation is normally not appropriate pretreatment for slow sand gravity filters.
 - d. Preoxidation is normally not appropriate pretreatment for slow sand gravity filters.
3. Number of filters. At least two filters shall be provided. In all cases the filters shall be capable of meeting the design maximum daily water demand with one filter out of service.
4. Filter media. Sand shall be clean silica sand that meets the following criteria:
- a. The effective size shall be between 0.15 mm and 0.35 mm.
 - b. The uniformity coefficient shall not exceed 2.5.
 - e. The sand depth shall not exceed 55 inches. A minimum depth of 30 inches is required for normal operation.
5. Supporting media. Gravel shall meet the requirements of 12VAC5-590-880 A-6 d.
6. Structural details.
- a. Sufficient head room shall be provided for normal movement on the filter by operating personnel for periodic sand removal operations.
 - b. Adequate manholes and access ports shall be provided for moving sand off and onto the filter.
 - e. There shall be no common wall between finished water and any lesser quality water.
 - d. Consideration should be given to providing facilities for dirty sand storage and washing, as well as for clean sand storage.
 - e. All slow sand filters should be covered.
7. Hydraulic design.
- a. Filter to waste shall be provided for all slow sand filters.
 - b. Water entering the filter shall be distributed in a manner such that the surface of the filter shall not be disturbed in any way.
 - e. The nominal rate of filtration may range from 45 to 150 gpd/ft² (0.031 to 0.10 gpm/ft²) of sand area.
 - d. The minimum depth of water over the filters shall be three feet. The maximum depth of water over the filters shall not exceed five feet. An overflow capable of handling the maximum flow to the filter shall be provided at the maximum filter water level.
 - e. Underdrains shall be provided to assure an even rate of filtration across the filter surface. The maximum velocity of water in the lateral underdrains shall be 1.0 ft/sec. The underdrain spacing shall not exceed 12 feet.
- f. Each filter shall be capable of being filled with water from the bottom up.
 - g. Each filter shall be equipped with a loss of head gauge; a rate of flow control device such as an orifice, weir, or butterfly valve; a weir or effluent pipe designed to assure that the water level over the filter never drops below the sand surface; and filtered water sample taps.
8. Performance report. At the conclusion of at least 12 months but no more than 18 months operation of the full scale plant an engineering report shall be submitted to the division that summarizes operating conditions and establishes optimum filter curing time, optimum filter run times, raw and finished water bacteriological and turbidity data, and any other pertinent factors.
- D. A. Diatomaceous earth filtration is essentially a straining process. The use of these filters is acceptable for application to surface waters or groundwaters under the direct influence of surface water shall be limited to treatment of a surface water source, a GUDI source, or both with low turbidity and low bacterial contamination, and may be used for iron removal for groundwaters from groundwater.
- 1. Source restrictions. Raw water quality for application to a diatomaceous earth filter without pretreatment shall meet the following requirements:
 - a. Bacteria shall not exceed 50 total coliforms in any sample.
 - b. Color shall not exceed 15 apparent CU units in any sample.
 - e. Turbidity shall not exceed 5 NTU in any sample.
 - 2. Pretreatment. If the raw water can be treated to meet the above source restrictions diatomaceous earth filtration may be utilized.
 - 3. B. Pilot plant study. Installation of a diatomaceous earth filtration system shall be preceded by a pilot plant study on the water to be treated.
 - a. Conditions of the the study, such as duration, filter rates, head loss accumulation, slurry feed rates, turbidity removal, bacteria removal, and other relative information shall be approved by the division prior to the study.
 - b. Satisfactory pilot plant results shall be obtained prior to submission of final construction plans and specifications.
 - e. The pilot plant study shall demonstrate the ability of the system to meet applicable drinking water standards at all times.
 - 4. C. Types of filters. Pressure or vacuum diatomaceous earth filtration units will be considered for approval.
 - 5. D. Treated water storage. Treated water storage capacity in excess of normal requirements shall be provided to:

~~a. 1.~~ Allow operation of the filters at a uniform rate during all conditions of system demand at or below the approved filtration rate, and

~~b. 2.~~ Guarantee continuity of service during adverse ~~raw~~ raw source water conditions without bypassing the system.

~~6. E.~~ Number of units. At least two filtering units shall be provided at plants having a rated capacity of more than 100 gpm.

~~7. F.~~ Precoat.

~~a. 1.~~ Application. A uniform precoat shall be applied hydraulically to each septum by introducing a slurry to the tank influent line and employing a filter-to-waste or recirculation system.

~~b. 2.~~ Quantity. Diatomaceous earth in the amount of 0.2 lb/ft² of filter area ~~or an amount sufficient to apply a minimum of 1/2 inch coating shall be used with recirculation.~~

~~8. G.~~ Body feed. A body feed system to apply additional amounts of diatomaceous earth slurry during the filter run is required.

~~a. 1.~~ Quantity. Rate of body feed is dependent on ~~raw source~~ raw source water quality and characteristics and must be determined in the pilot plant study.

~~b. 2.~~ Adequate accessibility to the feed system and slurry lines is required.

~~c. 3.~~ Continuous mixing of the body feed slurry is required.

~~d. 4.~~ Consideration should be given to providing a coagulant coating (alum or suitable polymer) of the body feed.

~~9. Filtration.~~

~~a. H.~~ Rate of filtration. The ~~recommended nominal rate is 1.0 gpm/ft² of filter area and hydraulic loading rate shall not exceed 1.5 gpm/ft² of filter area.~~ The filtration rate shall be controlled.

~~b. I.~~ Head loss. The head loss shall not exceed 30 psi for pressure diatomaceous earth filters, or a vacuum of 15 inches of mercury for a vacuum system.

~~c. J.~~ Recirculation. A recirculation or holding pump shall be employed to maintain a differential pressure across the filter when the unit is not in operation ~~in order~~ to prevent the filter cake from dropping off the filter elements. A minimum recirculation rate of 0.1 gpm/ft² filter area shall be provided.

~~d. K.~~ Septum or filter element. The filter elements shall be structurally capable of withstanding maximum pressure and velocity variations during filtration and backwash cycles, and shall be spaced ~~such so~~ that no less than one inch is provided between elements or between any element and a wall. Means shall be provided to check the ~~septum(s)~~ septum for cleanliness or damage. Consideration should be given to providing septum

assemblies where an individual septums septum can be removed, cleaned, repaired, and replaced.

~~e. L.~~ Inlet design. The filter influent shall be designed to prevent scour of the diatomaceous ~~each~~ earth from the filter element.

~~10. M.~~ Backwash. Provision shall be made for periodic backwashing of the filter. A satisfactory method to thoroughly remove and dispose of spent filter cake shall be provided.

~~11. N.~~ Appurtenances. The following shall be provided for every filter:

~~a. 1.~~ Sampling taps for ~~raw source~~ raw source and filtered water;:

~~b. Loss of head 2.~~ A loss-of-head or a differential pressure gauge;:

~~c. Rate of flow 3.~~ A rate-of-flow indicator, preferable with totalizer;: and

~~d. 4.~~ A throttling valve used to reduce rates below normal during adverse ~~raw source~~ raw source water conditions.

~~12. Monitoring.~~ Turbidity monitoring is required for filter effluent. ~~The monitoring may be done by recorder or daily periodic measurements.~~

~~E. Direct filtration.~~

~~1. General.~~ Direct filtration refers to the filtration of high quality and seasonally consistent raw water without prior sedimentation. Design shall be preceded by a pilot study acceptable to the division. An in plant demonstration study may be appropriate where a conventional treatment plant is to be converted to direct filtration.

~~2. Preliminary engineering report.~~ A report shall be prepared and submitted to the division which included the following specific items, in addition to those listed in 12VAC5-590-200 C:

~~a. Historical summary of meteorological conditions:~~

~~b. Historical summary of raw water quality covering a period of at least one year with special reference to fluctuation in quality and possible sources of contamination. The following raw water parameters should be evaluated:~~

~~(1) Apparent color~~

~~(2) Turbidity~~

~~(3) Bacterial concentration~~

~~(4) Microscopic biological organisms~~

~~(5) Temperature~~

~~(6) Total solids~~

~~(7) General inorganic and organic chemical characteristics~~

~~(8) Additional parameters as required by the division.~~

~~c. Description of the pilot plant study methods and work to be done.~~

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3. The pilot plant or in plant demonstration study shall be conducted over a sufficient time to treat all expected raw water conditions throughout the year. The pilot plant filter shall be of a similar type and operated in the same manner as proposed for full scale operation. The following items, as a minimum, shall be addressed:

- a. Chemical mixing conditions including shear gradients and detention periods.
- b. Chemical feed rates.
- c. Use of various coagulant and filtration aids including polymers.
- d. Flocculation conditions and contact time necessary for optimum filtration for each coagulant proposed.
- e. Filtration rates.
- f. Filter gradation, types of media, and depth of media.
- g. Filter breakthrough conditions and backwash requirements.

4. Final engineering report. A final report including the engineer's design recommendation shall be prepared and submitted prior to the submission of plans and specifications.

5. Treatment facilities:

- a. Flash mixing and flocculation. The design shall be based on the results of the pilot plant or in plant demonstration study and the requirements in 12VAC5-590-870 C and D.
- b. Filtration. Filters shall be dualmedia or multimedia gravity filters. The final design shall be based on the results of the pilot plant or in plant demonstration study and the requirements in 12VAC5-590-890. Turbidity at the sand-coal interface of each filter shall be monitored by indicating and recording equipment.

6. Plant siting. The plant design should allow for the future installation of sedimentation basing.

F. Rapid rate pressure filters.

The use of these filters may be considered for iron and manganese and other clarification processes. Pressure filters shall not be used in the filtration of polluted water, water from surface water sources, groundwater under the direct influence of surface water, or following lime-soda softening.

1. Minimum criteria relative to number, rate of filtration, structural details and hydraulics, filter media, etc. provided for rapid rate gravity filters also apply to pressure filters where appropriate.
2. The normal rate of filtration shall be 3 gpm/ft² of filter area.
3. The filters shall be designed to provide:
 - a. Loss of head gauges on the inlet and outlet pipes of each filter;

b. An easily readable meter or flow indicator on each battery of filters. A flow indicator is recommended for each filtering unit;

c. Filtration and backwashing of each filter individually with an arrangement of piping as simple as possible to accomplish these purposes;

d. Minimum sidewall shell height of five feet. A corresponding reduction in sidewall height is acceptable where proprietary bottoms permit reduction of the gravel depth;

e. The top of the washwater collection trough to be at least 18 inches above the surface of sand;

f. The underdrain system to collect efficiently the filtered water and to distribute the backwash water at a rate not less than 15 gpm/ft² of filter area;

g. Location of flow indicators and controls that is easily readable while operating the control valves;

h. Air release valve on the highest point of each filter;

i. Accessible manhole to facilitate inspections and repairs;

j. Means to observe the wastewater during backwashing; and

k. Construction to prevent cross-connection.

O. Turbidity monitoring. Indicating and recording turbidimeters meeting requirements of 12VAC5-590-770 B shall be provided for:

1. The source water;
2. The effluent from each filter unit; and
3. The CFE.

P. An operation and maintenance manual shall be provided for all diatomaceous earth filtration units. The manual shall include the following:

1. A detailed description of the treatment units and the control of each unit for optimal performance;
2. A preventative maintenance schedule;
3. The manual adjustment and override procedures for all automatic control features; and
4. A troubleshooting guide for typical problems.

Q. The owner shall require the equipment manufacturer to provide onsite start-up and follow-up training.

12VAC5-590-881. Slow sand filtration.

A. Slow sand filters shall be approved only after a pilot study demonstrates that the water supply contains sufficient nutrients for use of this treatment technology.

B. At least two filters shall be provided. In all cases, the filters shall be capable of meeting the design maximum daily water demand with one filter out of service.

C. Sand shall be clean silica sand that meets the following criteria:

1. The effective size shall be between 0.15 mm and 0.35 mm;
2. The uniformity coefficient shall not exceed 2.5; and
3. The sand depth shall not exceed 55 inches. A minimum depth of 30 inches is required for normal operation.

D. Supporting media gravel shall meet the requirements of 12VAC5-590-874 F.

E. Structural details.

1. All slow sand filters shall be covered.
2. Sufficient head room shall be provided for normal movement on the filter by operating personnel for periodic sand removal operations.
3. Adequate manholes and access ports shall be provided for moving sand off and onto the filter.
4. There shall be no common wall between the finished water and any water of lesser quality.
5. All filters shall be protected from freezing.

F. General design requirements.

1. Filter to waste shall be provided for all slow sand filters.
2. Water entering the filter shall be distributed in a manner so that the surface of the filter shall not be disturbed in any way.
3. The nominal rate of filtration range shall be from 45 to 150 gpd/ft² (0.031 to 0.10 gpm/ft²) of sand area.
4. The minimum depth of water over the filters shall be three feet. The maximum depth of water over the filters shall not exceed five feet. An overflow capable of handling the maximum flow to the filter shall be provided at the maximum filter water level.
5. Underdrains shall be provided to assure an even rate of filtration across the filter surface. The maximum velocity of water in the lateral underdrains shall be 0.75 ft/sec. The underdrain spacing shall not exceed three feet.
6. Each filter shall be capable of being filled with water from the bottom up.
7. Each filter shall be equipped with a loss-of-head gauge; a rate-of-flow control device such as an orifice, weir, or butterfly valve; a weir or effluent pipe designed to assure that the water level over the filter never drops below the sand surface; and filtered water sample taps.
8. Monitoring, indicating, and recording turbidimeters meeting the requirements of 12VAC5-590-770 B shall be provided for:
 - a. The source water;

- b. The filter effluent from each filter unit; and
- c. The CFE.

9. The filters shall be designed to operate to waste after scraping or replacement of the sand, until the ripening process is complete and the turbidity meets the requirements of 12VAC5-590-395 A 2 b (3).

12VAC5-590-882. Membrane filtration.

A. Applicability. This section pertains to the use of membrane filtration as follows:

1. For pathogen and turbidity log removal credits in accordance with Table 500.1 in 12VAC5-590-500, the use of MF and UF are allowed.
2. For softening, total dissolved solids (TDS) removal, organics removal, and other treatment purposes, reverse osmosis (RO) and nanofiltration (NF) are allowed in accordance with 12VAC5-590-680 G.

B. Membrane filtration systems shall meet all requirements contained in 12VAC5-590-401 E 6 b to be granted removal credit for Giardia lamblia and Cryptosporidium.

C. A demonstration study shall be conducted on the water to be treated before the installation of a membrane filtration system unless the owner can demonstrate to the satisfaction of the [~~commissioner~~ department] that the source water quality range over all four seasons of a year will be adequately treated by the proposed design.

D. All membrane treatment units for pathogen and turbidity removal shall employ MF or UF using hollow fiber, positive pressure-driven membrane filtration technology. They may employ either an inside-to-outside or outside-to-inside flow direction.

E. The number of membrane units shall be a function of the overall treatment facility capacity, waterworks capacity, and water demand. Multiple membrane units shall be provided where the treatment facility design capacity exceeds 0.5 MGD.

F. Approved materials and chemicals.

1. All membrane materials, associated piping, and other components in contact with the water shall be in accordance with 12VAC5-590-810.
2. Chemicals used in any membrane cleaning process shall be in accordance with 12VAC5-590-515.

G. Turbidity monitoring. Continuous indicating and recording equipment meeting the requirements of 12VAC5-590-770 B shall be provided for the following locations:

1. Source water;
2. Pretreated water, such as by coagulation, flocculation, and sedimentation (if applicable);
3. Filtrate from each membrane unit; and

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4. Combined filter effluent, where more than one membrane unit is installed.

H. Indicating and recording equipment for entry point chlorine residual monitoring shall be provided. Indicating and recording equipment for filtered water temperature monitoring shall be provided.

I. Pressure monitoring:

1. Indicating equipment shall be provided for monitoring the pressure drop across any prefilter.

2. Indicating and recording equipment shall be provided for monitoring the pressure drop across membrane modules, (i.e., transmembrane pressure).

3. Integrity monitoring. Indicating and recording equipment for direct integrity test monitoring shall be provided and shall document the date, time, and results of every test performed on each unit.

J. Flow measurement. Equipment shall be provided for measuring or calculating the following flows:

1. Source water, gpm and totalized;

2. Filtrate from each unit, gpm and totalized;

3. Flux from each unit, gpd/sf;

4. Recirculation to each unit, gpd or percent of feed flow, if applicable;

5. Entry point, gpm and totalized; and

6. Waste.

K. An alarm system shall be provided that will report alarm conditions and shut down the treatment plant and entry point flow as necessary.

1. All alarms shall be reported to a location manned 24 hours per day or to a person on call and shall report alarm conditions audio-visually at the water treatment plant.

2. At a minimum, the following points shall be monitored by the alarm system. Alarm and shut down set point conditions will be determined by the [~~commissioner~~ department] on an individual basis.

a. Feed water flow;

b. Feed water turbidity, if required by the [~~commissioner~~ department];

c. Filtrate turbidity from each unit exceeding operational control criteria;

d. Membrane direct integrity test initiation, failure, and exceeding operational control criteria; and

e. Entry point disinfectant residual.

L. Sample taps shall be provided to monitor the following:

1. Source water;

2. Source water storage tank effluent;

3. Feed water after prefiltration;

4. Filtrate from each membrane unit;

5. Combined filtrate from all units;

6. Entry point; and

7. Additional sample taps to monitor the presence of cleaning solutions used in either the backwash or cleaning operations.

M. Equipment shall be provided, using variable frequency drive or other suitable means to adjust the feed pump output in order not to exceed the design flux in the event modules are taken off line.

N. Pressure gauges.

1. A portable, pocket-type pressure gauge of the correct range and accuracy for the application and with the capability of being calibrated shall be provided to check the pressure readings of the pressure transducers installed on the membrane units.

2. At each location of a pressure transducer, a 1/4-inch diameter pressure gauge with American National Standard Taper Threads (NPT) connection shall be provided to facilitate the connection of a portable, pocket-type test gauge.

O. Clean-in-place systems, including tanks, piping, all joints, and valves, shall be compatible with the cleaning solution and shall be corrosion resistant.

P. An operation and maintenance manual shall be provided for all membrane filtration treatment units. The operation and maintenance manual shall include the following:

1. A maintenance schedule for each piece of equipment.

2. Operation procedures, including software user instructions.

3. A troubleshooting guide.

4. Identification of specific proprietary equipment or software not available to the owner or operator.

5. A service call number.

6. DIT requirements.

7. Chemical cleaning instructions.

8. A detailed description of the treatment units and the control of each unit for optimal performance.

Q. A means shall be provided to isolate a compromised module or fiber or both. A means to visually inspect modules while simultaneously conducting the DIT shall be provided. Alternatively, sonic testing equipment that provides a relative

accelerometer reading shall be provided where visual inspection cannot be performed.

12VAC5-590-883. Bag and cartridge filtration.

A. Bag or cartridge filtration shall be limited to treating a surface water source, a GUDI source, or both with low turbidity.

B. A pilot plant study shall be conducted on the water to be treated before the installation of a bag or cartridge filter system.

C. Bag and cartridge filtration systems shall be granted removal credit for Giardia lamblia and Cryptosporidium in accordance with 12VAC5-590-401 E 6 a, provided that they meet the requirements of this section.

D. General design requirements.

1. All system components such as housing, bags, cartridges, gaskets, O-rings, and other components in contact with water shall be in accordance with 12VAC5-590-810. All cartridge filter housing shall be certified by the ASME certification program, or equivalent, for pressure vessels and stamped with the appropriate certification mark.

2. Indicating and recording turbidimeters meeting requirements of 12VAC5-590-770 B shall be provided for the source water and the CFE. The [~~commissioner~~ department] may require indicating and recording effluent turbidimeters for each filter unit.

3. The maximum flux rate across the final filter shall not exceed 0.2 gpm/ft².

4. Maximum differential pressure across the cartridge filter shall not exceed 20 psi.

5. Pressure gauges and sampling taps shall be provided before and after each bag or cartridge filter.

6. Provisions to accomplish filter-to-waste shall be provided.

7. Automatic start-up of bag or cartridge filters is prohibited.

8. An alarm system shall be provided that will report alarm conditions and shut down the treatment plant and entry point flow.

a. All alarms shall be reported to a location manned 24 hours per day or to a person on call and shall report alarm conditions audio-visually at the water treatment plant.

b. The following shall be monitored by the alarm system:

- (1) Source water turbidity;
- (2) Feed water flow;
- (3) If applicable, filtrate turbidity from each unit exceeding operational control criteria;
- (4) Combined filter effluent turbidity exceeding operational control criteria;
- (5) Differential pressure at each unit; and
- (6) Entry point disinfectant residual.

9. At least two filtering units shall be provided at plants having a rated capacity of greater than 100 gpm.

E. Operation and maintenance documents shall be provided for all bag or cartridge filter units and shall include:

- 1. Detailed description of the bag or cartridge treatment units and the control of each unit for optimal performance.
- 2. Procedural criteria, such as pressure differential, turbidity, and other parameters, and expected frequency of bag or cartridge filter replacement.
- 3. A preventative maintenance schedule.
- 4. Manual adjustment and override procedures for any automatic control features.
- 5. Troubleshooting guide for typical problems.

F. The owner shall require the equipment manufacturer to provide onsite start-up and follow-up training.

12VAC5-590-890. High rate treatment processes. (Repealed.)

A. General.

High rate treatment processes are characterized by:

- 1. Precise coagulation control;
- 2. Turbidity monitoring throughout the process;
- 3. pH monitoring throughout the process;
- 4. Reduced flocculation time;
- 5. Reduced sedimentation time;
- 6. Use of multimedia filters incorporating anthracite and silica or other types of filter materials; and
- 7. Filter rates greater than two gallons per minute per square foot of filter area and not exceeding four gallons per minute per square foot of filter area.

B. Instrumentation.

- 1. The coagulation process shall be controlled by:
 - a. Zeta potential shall be measured by microelectrophoresis;
 - b. Dual pilot filters shall be required. The pilot filter shall consist of a small filter (about six inches in diameter) containing the same type and depth of media as the plant filters, and which is operated in the same manner as the larger plant units except that the plant raw water after the treatment chemicals have been added rather than the coagulated and settled water is applied to the pilot filter. The pilot filter shall be equipped with recording turbidimeters on the effluent to measure the filterability of the water as reflected by turbidity monitoring. Departures from these standards using proprietary pilot filters may be considered;

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~~e. Streaming current monitor a continuous sampling instrument which measures the electric current generated when water flows past suspended particles contained in the water; and~~

~~d. In addition to one of the above devices, a multiple six-gang stirring machine for performing jar tests shall be provided.~~

~~2. Indicating and recording turbidity monitoring shall be provided for monitoring the turbidity of:~~

- ~~a. The raw water;~~
- ~~b. Settled water from each sedimentation basin;~~
- ~~c. Filter effluent from each filter; and~~
- ~~d. Finished water leaving the treatment plant.~~

~~3. Indicating and recording pH monitoring equipment shall be provided for monitoring:~~

- ~~a. The raw water;~~
- ~~b. The flash mix effluent; and~~
- ~~c. The finished water leaving the treatment plant.~~

~~C. Unit processes.~~

~~1. Flash mix facilities shall conform with 12VAC5-590-870 C.~~

~~2. Flocculation design shall comply with 12VAC5-590-870 D, except the minimum detention time shall be 20 minutes.~~

~~3. Sedimentation design shall comply with 12VAC5-590-870 E, except the minimum effective detention time shall be three hours.~~

~~4. Filtration.~~

~~a. The maximum rate of filtration shall not exceed four gallons per minute per square foot of filter area.~~

~~b. Number of filter units. At least two units shall be provided at plants having a rated capacity less than two million gallons per day. The total number of filters necessary at plants having a rated capacity equal to or greater than two million gallons per day may be estimated using the following formula:~~

$$N = 1.35 (Q)^{0.5}$$

~~(Based upon the formula as per Morrell and Wallace from Hardenbergh and Rodie's "WATER SUPPLY AND WASTE DISPOSAL 1960" and modified for the high rate process).~~

~~Where N equals the number of filter units, Q equals the plant capacity in million gallons per day.~~

~~c. Filters incorporated in the high rate treatment process shall be of the dual media or multimedia type. The media shall consist of anthracite, silica sand, or other suitable filter materials. Both dual media and mixed media filters will be considered. Since filters media designs utilized in the high rate treatment process are generally proprietary in~~

~~nature, no attempt will be made to set standards for the minimum filter media depth, the effective size and uniformity coefficient of the filter media, or the specific gravity. However, beds having a minimum total depth of 27 inches of filter media with a minimum of 10 inches of fine sand will be considered. Other proposals for high rate processes shall be considered individually by the division.~~

~~d. Structural details and hydraulics—see 12VAC5-590-880 A 4.~~

~~e. Washwater trough—see 12VAC5-590-880 A 5.~~

~~f. Filter bottoms and strainers—see 12VAC5-590-880 A 7.~~

~~g. Surface wash—see 12VAC5-590-880 A 8.~~

~~h. Appurtenances—see 12VAC5-590-880 A 9.~~

~~i. Backwash—see 12VAC5-590-880 A 10.~~

~~j. Miscellaneous—see 12VAC5-590-880 A 11.~~

~~5. Chemical application.~~

~~a. Suitable equipment for application of filter aids (polymers) to the influent of the filters shall be provided.~~

~~b. See 12VAC5-590-860.~~

12VAC5-590-895. Pre-engineered package treatment units.

A. Pre-engineered package treatment units are defined as predesigned, factory built, and transported virtually assembled to the operation site. The provisions of 12VAC5-590-290 shall apply.

B. General design considerations.

1. A rapid mix unit process shall be provided. The design shall meet requirements of 12VAC5-590-871 A.

2. Flocculation units shall meet requirements of 12VAC5-590-871 B or as identified and justified in the approved PER.

3. Sedimentation units shall meet requirements of 12VAC5-590-872 or as identified and justified in the approved PER.

4. Filters shall be dual media or multimedia gravity filters. Design of filtration units shall meet the requirements of 12VAC5-590-874 or as identified and justified in the approved PER.

5. Indicating and recording turbidimeters meeting requirements of 12VAC5-590-770 B shall be provided for the:

- a. Source water;
- b. Applied water to each filter;
- c. Filter effluent from each filter; and
- d. CFE.

6. Sufficient overflows and drains shall be provided to maintain a maximum water level within the plant, including the depth of water over the filters, and to facilitate complete draining of the package unit.

7. Where automatic unit process control is provided, operator adjustment of chemical feed rates, times, and sequences shall be provided as well as a manual override of all automatic features.

- a. Automatic start-up of water treatment unit processes is prohibited.
- b. Valve actuators shall be provided with manual override capability.

8. Treatment units installed at ground level shall be provided with stairways, walkways, or other suitable means to allow access for operation and maintenance and observation of all treatment process units. Filters shall be adequately accessible to facilitate evaluation of the entire filter bed for media condition and placement, fluidization during backwashing, and evaluation of compaction during filtration.

C. An operation and maintenance manual shall be provided for all pre-engineered package treatment units. The operation and maintenance manual shall include the following:

- 1. A detailed description of the treatment units and the control of each unit for optimal performance.
- 2. A preventative maintenance schedule.
- 3. Manual adjustment and override procedures for any automatic control features.
- 4. A troubleshooting guide for typical problems.

D. The owner shall require the equipment manufacturer to provide onsite start-up and follow-up training.

12VAC5-590-900. Softening Cation exchange softening.

~~Softening shall not be used as the sole treatment method for surface waters or bacteriologically contaminated groundwater.~~

A. The softening process design selected shall be based upon the mineral qualities of the raw source water and the desired finished water quality in conjunction with requirements for disposal of sludge or brine water, cost of the plant, cost of the chemicals, and the plant location.

~~A. Lime, excess lime, and excess lime soda processes. The applicable design standards for mixing, flocculation, and sedimentation are the same for the lime, excess lime, and excess lime soda processes as for conventional clarification except that the minimum flash mix time is five minutes, flocculation time is 40 minutes, and settling time is two hours. Where softening is included as a treatment process in conjunction with clarification, the greater detention time criteria shall govern. For criteria pertaining to softening with solids contact units, see 12VAC5-590-870 F.~~

- 1. Mechanical sludge removal equipment shall be provided in the sedimentation basin.

~~2. Determinations shall be made of the CO₂ content of the raw water. When concentrations exceed 10 milligrams per liter, the economics of removal by aeration as opposed to removal with lime should be considered.~~

~~3. Equipment for stabilization of water softened by the excess lime and excess lime soda processes is required.~~

~~4. Staging shall be considered when the excess lime soda process is employed.~~

~~5. Provision shall be included for proper disposal of softening sludges.~~

~~6. The use of excess lime shall not be considered an acceptable substitution for chlorination.~~

B. Cation exchange process.

B. Iron, manganese, or a combination of the two, in the oxidized state or unoxidized state, ~~should~~ shall not exceed 0.3 milligrams per liter mg/L in the water as applied to the ion exchange material. Pretreatment shall be required when the content of iron, manganese, or a combination of the two, is one milligram per liter or more.

~~4. C. The units may shall be of pressure or gravity type, or of either an upflow or downflow design, using automatic or manual regeneration. Automatic regeneration is suggested for small plants.~~

~~2. D. The design capacity for hardness removal ~~should~~ shall not exceed 20,000 grains per cubic foot grains/ft³ when the resin is regenerated with 0.3 pounds of salt per kilogram of hardness removed.~~

~~3. E. The depth of the cation exchange material ~~should~~ shall not be less than three feet.~~

~~4. F. The hydraulic loading rate of softening should not exceed seven gallons per square foot per minute seven gpm/ft² and the backwash rate should be six to eight gallons per square foot per minute gpm/ft.²~~

~~5. G. The freeboard shall depend upon the specific gravity of the media and the direction of the water flow.~~

~~6. H. The bottoms, strainer systems, and support for the cation exchange material shall conform to criteria provided for rapid rate gravity filters. See also 12VAC5-590-874.~~

~~7. I. Facilities shall be included for even distribution of brine over the entire surface of both upflow and downflow units. Backwash, rinse, and air relief discharge pipes shall be installed in such a manner as to prevent any possibility of backsiphonage.~~

~~8. J. A bypass shall be provided around softening the cation exchange units to produce a blended water of desirable hardness. Meters shall be installed to measure total water delivered to the distribution system and on each softener unit. An automatic proportioning or regulating device and shutoff~~

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valve should be provided on the bypass line. In some installations, it may be necessary to treat the bypassed water to obtain acceptable levels of iron and manganese in the finished water.

9. K. Waters having turbidity of five units NTUs or more ~~turbidity~~ shall not be applied directly to the cation exchange softener. Silica gel materials should be used for water having a pH above 8.4 and should not be used when iron is present. When the applied water contains a chlorine residual, the cation exchange material shall be a type that is not damaged by the chlorine residual chlorine. Phenolic resin shall not be used.

10. ~~Smooth nose sampling~~ L. Sampling taps shall be provided for the collection of representative samples for both bacteriological and chemical analyses. The taps shall be located to provide for sampling of the softener influent, softener effluent, and the blended water. The sampling taps for the blended water shall be at least 20 feet ft downstream from the point of blending.

11. M. Brine measuring or ~~salt dissolving~~ salt-dissolving tanks and wet salt storage facilities shall be covered. The makeup water inlet shall have a free fall discharge of two pipe diameters but not less than two inches above the maximum liquid level of the unit or be protected from backsiphonage. Water for filling the tank should be distributed over the entire surface by pipes above the maximum brine level in the tank. The salt shall be supported on graduated layers of gravel under which is a suitable means of collecting the brine. Wet salt storage basins must be equipped with manhole or hatchway openings having raised curbs and watertight covers ~~having~~ with overhanging edges similar to those required for finished water reservoirs. Overflows, where provided, shall be turned down, have a proper free fall discharge and be protected with noncorrodible screens or self-closing flap valves.

12. N. Wet salt storage basins shall have sufficient capacity to store at least ~~30 days~~ a 30-day operating supply.

13. O. Stabilization of the finished water for corrosion control ~~shall be provided~~ shall be considered.

14. P. Suitable disposal must be provided for the brine waste.

15. Q. Pipes and contact materials shall be resistant to the aggressiveness of the salt.

~~16. Salt storage tanks and feed equipment should be enclosed and separated from other operating areas in order to prevent damage to equipment.~~

12VAC5-590-910. Aeration. (Also see 12VAC5-590-970).

A. Aeration treatment ~~devices as described herein may be used~~ is acceptable for oxidation, separation of gases, or for taste and odor control. General design requirements include the following:

A. Natural draft aeration.

~~The design of natural draft aeration shall provide the following:~~

- ~~1. The water shall be distributed uniformly onto the top tray;~~
- ~~2. The water shall be discharged through a series of three or more trays with the separation of trays not less than six inches;~~
- ~~3. The trays shall be loaded at a rate ranging from one gallon per minute to five gallons per minute for each square foot of total tray area;~~
- ~~4. The trays shall have slotted, woven wire cloth, or perforated bottoms;~~
- ~~5. The perforations shall be 3/16 to 1/2 inches in diameter and spaced one to three inches on centers when perforations are used;~~
- ~~6. Eight to 12 inches of inert media shall be used, such as coke or limestone which shall be two to six inches in size, and will not readily disintegrate due to freezing cycles;~~
- ~~7. The aerated water shall receive disinfection treatment; and~~
- ~~8. The trays shall be designed using materials resisting deterioration with consideration being given to corrosion, slime, and algae control.~~

~~B. Forced or induced draft aeration devices shall be designed to:~~

- ~~1. Provide an adequate liquid distribution and countercurrent of air through the enclosed aeration column;~~
- ~~2. Be insectproof and lightproof;~~
- ~~3. Be such that air introduced into column shall be screened through insect proof screen and be as free of dust as possible;~~
- ~~4. Ensure that water outlet is adequately sealed to prevent unwanted loss of air; and~~
- ~~5. Ensure that the sections of the aerator can be easily reached and removed for maintenance.~~

~~C. Pressure aeration may be used for oxidation purposes if a pilot plant study indicates the method is applicable; it is not acceptable for removal of dissolved gases. Filters following pressure aeration shall have adequate exhaust devices for release of air. Pressure aeration devices shall be designed to:~~

- ~~1. Give thorough mixing of compressed air with the water being treated; and~~
- ~~2. Provide screened and filtered air, free of obnoxious fumes, dust, dirt, and other contaminants.~~

1. The aerated water shall be chlorinated following aeration.
2. The equipment shall incorporate materials resistant to deterioration and corrosion and shall be designed to eliminate the potential for fouling problems from calcium carbonate and iron precipitation and from algae, slime, and

bacteriological growth. Disinfection capability shall be provided before the aeration treatment units.

3. The equipment shall be easily accessed and serviced.

4. The air introduced into the treatment units shall be filtered and shall be free of insects, obnoxious fumes, dust, dirt, and other contaminants. If blowers are located inside a building, then the air intakes shall extend to the outside and be furnished with appropriate air filters.

5. Air exhaust outlets shall be located to avoid induced contaminants, particularly at or near occupied areas or blower intakes.

6. Duplicate blowers, motors, or multiple treatment units shall be required for treatment processes designed to meet the drinking water quality standards in 12VAC5-590-340.

B. Natural, forced, or induced draft aeration units shall be designed to provide an adequate liquid distribution and countercurrent of air through the enclosed aeration column, and adequately seal the water outlet to prevent unwanted loss of air.

C. Pressure aeration means the injection of compressed air into the water to be treated, typically for oxidation. Pressure aeration shall not be approved for removal of dissolved gases. Filters following pressure aeration shall have adequate exhaust devices for the release of air. Pressure aeration devices shall be designed to provide thorough mixing of compressed air with the water being treated.

D. Packed tower aeration (air stripping) is suitable for removing VOCs, THMs, carbon dioxide, and radon.

1. Justification shall be provided for the selected design parameters (e.g., height and diameter of the unit, air-to-water ratio, packing depth, surface loading rate, and other features). The design shall consider the effects of temperature change and the resulting impact in contaminant removal efficiency. Pilot plant studies may be required to substantiate the design.

2. The packing material used shall be resistant to the aggressiveness of the water, dissolved gases, and cleaning materials, and shall meet requirements of 12VAC5-590-810.

3. Water shall be evenly distributed at the top of the tower using spray nozzles or orifice-type distributor trays that will prevent short circuiting. A mist eliminator above the water distribution system may be required.

4. A means to allow for discharge and wasting of water or chemicals used to clean the tower shall be provided.

5. Sample taps shall be provided in the influent and effluent piping.

6. The design shall prevent freezing of the influent riser and effluent piping.

7. An overflow pipe discharging 12 to 24 inches above the ground and over a drainage inlet structure or splash pad shall be provided.

8. A sufficient number of access ports with a minimum diameter of 24 inches shall be provided to facilitate inspection, media replacement, media cleaning, and maintenance of the unit interior.

9. A positive air flow sensing device and a pressure gauge shall be installed on the air influent line. If the aeration unit is designed to remove a contaminant with a PMCL, then the positive air flow sensing device shall be an integral part of an automatic control system that will turn off the influent water if positive air flow is not detected.

~~D. E. Other methods of aeration may be used if applicable to the treatment needs. Such methods include, but are not restricted to, spraying, diffused air, and mechanical aeration. The treatment processes shall be designed to meet the particular needs of the water to be treated and are subject to the approval of the division [commissioner department].~~

~~E. Aerators that discharge through the atmosphere should be protected from wind by being placed in a louvered enclosure designed to provide easy access to the interior.~~

~~F. Aerators that are used for oxidation or removal of dissolved gases from waters that will be given no further treatment other than chlorination shall be protected from contamination from insects and birds.~~

~~G. Ventilation shall be provided to prevent the accumulation of released gases in the building housing the treatment facilities.~~

~~H. A bypass should be provided for all aeration units.~~

12VAC5-590-920. Iron and manganese control.

A. Iron and manganese control, as used herein in this section, refers solely to treatment processes designed specifically for this purpose. The treatment process used will depend upon the character of the raw source water. The selection of one or more treatment processes shall meet specific local conditions as determined by engineering investigations, including chemical analyses of representative samples of water to be treated, and receive the approval of the division [commissioner department]. The [commissioner department] may require that pilot studies be conducted.

~~It may be necessary to operate a pilot plant in order to gather all information pertinent to the design.~~

~~A. Removal~~ B. Iron and manganese removal by oxidation, detention, and filtration.

1. Oxidation may be by aeration or by chemical oxidation with shall be accomplished by aeration or by chemicals, such as chlorine O_2 , potassium permanganate, sodium permanganate, or a combination thereof.

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~~2. A minimum detention of 30 minutes shall be provided following oxidation by aeration in order to insure that the oxidation reactions are as complete as possible. This minimum detention time shall be reduced only when a pilot plant using the water under study demonstrates a lesser detention time. The detention basin shall be designed as a holding tank with no provision for sludge collection but with sufficient baffling to prevent short circuiting. Sedimentation basins shall be provided when treating water with high iron or manganese content or where chemical coagulation is used to reduce the load on the filters. The detention time shall be in a range of one to four hours where sedimentation is necessary prior to filtration. Pilot studies should be made of the water to determine the necessary detention time.~~

~~3. Filtration — see 12VAC5 590 880.~~

~~B. Removal by lime soda process — see 12VAC5 590 900 A.~~

~~C. Removal by units using continuous potassium permanganate regeneration.~~

~~This process consists of a continuous feed of potassium permanganate to the influent of a manganese greensand filter. Positive displacement type feeders shall be provided, and the feed rate shall be adequately controlled by using feeders which are paced by water meters or ratio type feeders (which are a combination type feeder and flow meter) to prevent an overdosage of potassium permanganate.~~

~~1. The permanganate shall be applied following pH affecting chemicals.~~

~~2. Other oxidizing agents or processes such as chlorination or aeration may be used prior to the permanganate feed to reduce the cost of the chemical.~~

~~3. The normal filtration rate is three gallons per minute per square foot. Lower filtration rates may be required or higher filtration rates may be permitted if justified by field studies and approved by the division~~

~~4. The normal wash rate is eight to 12 gallons per minute per square foot.~~

~~5. Air washing may be provided.~~

~~6. Sample taps shall be provided:~~

- ~~a. Prior to application of permanganate;~~
- ~~b. Immediately ahead of filtration;~~
- ~~e. At a point between the anthracite coal media and the manganese treated greensand;~~
- ~~d. Halfway down the manganese treated greensand; and~~
- ~~e. For filter effluent.~~

~~D. Removal by ion exchange. This process of iron and manganese removal may not be acceptable for waters containing high concentrations (more than 1.0 milligrams per liter) of iron, manganese, or combination thereof. Applications~~

~~may be limited based on the media used. This process may not be acceptable where either the raw water or wash water contains dissolved oxygen. (See 12VAC5 590 900 B for general cation exchange information.)~~

~~2. The design shall consider:~~

~~a. pH adjustment to promote rapid oxidation;~~

~~b. A pre-settling tank located ahead of the filters to remove oxidized iron and increase filter run times;~~

~~c. A manganese-oxide coating on the filter media, such as manganese greensand. The total depth of media shall not be less than 30 inches. Media shall have an effective size from 0.3 to 0.35 mm and a uniformity coefficient of no more than 1.6. Following initial placement of the media, care shall be taken to remove fines by backwashing and skimming the surface; and~~

~~d. An anthracite cap layer over the manganese-oxide coated media having a depth of six to 18 inches.~~

~~3. Aeration shall be designed in accordance with 12VAC5-590-910.~~

~~4. Flow proportional chemical feeders shall be provided, and the feed rate shall be adequately controlled by using feeders that are paced by water meters to prevent an over-dosage of chemical. A flow switch in place of a flow proportional feeder may be permissible.~~

~~5. Sample taps shall be provided before the application of the oxidant, immediately ahead of filtration, and at the filter effluent.~~

~~6. Pressure filters shall include provisions for:~~

~~a. Pressure gauges on the inlet and outlet pipes of each filter or a differential pressure gauge on each filter;~~

~~b. An easily readable meter or flow indicator on each battery of filters. A flow indicator is recommended for each filtering unit;~~

~~c. Filtration, backwashing, and filter-to-waste of each filter individually:~~

~~(1) Backwash water shall be evenly distributed in an adequate quantity to achieve at least a 30% media bed expansion during backwashing. The backwash rate shall be based on the media;~~

~~(2) The top of the backwash water collection trough shall be at least 18 inches above the media surface;~~

~~(3) An underdrain system to efficiently collect the filtered water and to distribute an adequate quantity of backwash water to achieve at least a 30% media bed expansion during backwashing;~~

~~d. Flow indicators and controls are located so that they are easily readable while operating the control valves;~~

~~e. An air release valve on the highest point of each filter;~~

~~f. An accessible manhole to facilitate inspections and repairs for filters greater than 36 inches in diameter;~~

g. A means to observe the wastewater during backwashing; and

h. Construction to prevent cross-connection.

C. Iron and manganese removal by ion exchange shall only be approved for removing low concentrations (less than 0.5 mg/L) of combined iron and manganese. The [~~commissioner~~ department] may require pilot studies be conducted to determine post-exchange pH/alkalinity adjustment. See 12VAC5-590-900 for general ion exchange design requirements.

~~E. D.~~ Sequestering —see 12VAC5-590-950 E iron and manganese.

1. Sequestration with polyphosphates shall be considered for polishing filtered water; however, it shall not be used where the residual iron, manganese, or combination thereof exceeds 1.0 mg/L.

2. Phosphate feed rates shall be determined by the product manufacturer and shall not exceed 10 mg/L.

3. Feed equipment shall be in accordance with the requirements of 12VAC5-590-860.

4. Stock phosphate solution shall be disinfected in accordance with manufacturer recommendations unless the phosphate solution is fed directly from the covered shipping container.

5. Sodium silicate or other silicate-based chemicals for the sequestration of iron and manganese shall be approved by the [~~commissioner~~ department] on an individual basis. Operational data from actual full-scale facilities treating waters of similar quality or pilot tests may be required.

~~F. E.~~ Sampling taps shall be provided for control purposes. Taps shall be located on each raw source water source, each treatment unit influent, and each treatment unit effluent.

G. Testing equipment shall be provided for all plants F. Iron and manganese testing equipment shall be provided. The Iron testing equipment shall have the capacity to accurately measure the iron content to a minimum of 0.1 milligrams per liter and to indicate manganese removal. be capable of accurately measuring iron concentration as low as 0.1 mg/L. Manganese testing equipment shall be capable of accurately measuring manganese concentration as low as 0.05 mg/L.

G. The [~~commissioner~~ department] may approve proprietary treatment processes for the removal of iron and manganese on an individual basis. Operational data from actual full-scale facilities treating waters of similar quality or pilot tests may be required. The provisions of 12VAC5-590-290 may apply.

12VAC5-590-930. Fluoridation.

Where practicable and feasible, the board may require owners of waterworks to provide artificial fluoridation so as to bring

the fluoride ion concentration to the optimum level as set forth in Article I of Part II.

A. Prior to the issuance of a permit for fluoridation, plans, specifications, operating procedures, and methods of supervision shall be submitted to the division. These shall be in conformity with requirements to be determined for each individual installation by the division. The board recommends that all community waterworks in Virginia be optimally fluoridated. Fluoridation feed systems shall be designed to deliver the optimum fluoride ion concentration as determined by the U.S. Department of Health and Human Services.

B. Fluoride compounds. Commercial sodium fluoride, sodium silicofluoride fluorosilicate (also called sodium silicofluoride), and fluorosilicic acid (also called hydrofluorosilicic acid) shall conform to the applicable AWWA standards or [~~NSF/ANSI Standard 60-2017~~ NSF/ANSI/CAN Standard 60-2020], as appropriate. Use of other chemicals which may be made available must be approved by the division.

C. Fluoride compound storage. Fluoride chemicals shall be isolated from other chemicals to prevent cross contamination. Compounds shall be stored in covered or unopened shipping containers in a separate room (except sodium fluoride saturators) with the chemical feeder. The room must be provided with mechanical ventilation to the outside of the building.

D. Chemical feed installations.

1. Chemical feed installations shall conform to 12VAC5-590-860.

2. 1. Scales and loss of weight loss-of-weight recorders for dry chemical feeders and hydrofluorosilicic acid feeders shall be provided.

3. Feeders 2. Fluoride metering pumps shall have an accuracy so that the actual feed rate will be within 5.0% of the intended feed rate.

3. The point of application shall be located to provide adequate mixing.

4. The point of application of hydrofluorosilicic acid, if into a pipe, shall be so located as to provide adequate mixing.

5. 4. All fluoride feed lines shall be provided with adequate antisiphon anti-siphon devices.

5. Design of fluoride saturators shall consider:

a. The source water hardness. The water applied to the sodium fluoride saturator feeders shall be softened if the hardness exceeds 50 mg/L.

b. The fluoride source. Use only sodium fluoride in the saturators.

c. A flow restrictor with a maximum flow of 2.0 gpm on all upflow saturators.

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~~6. The water applied to sodium fluoride saturator feeders shall be softened if hardness exceeds 75 milligrams per liter.~~

~~7. Unless otherwise approved, fluoride shall be applied to the raw water with the feeder paced by the raw water meter.~~

6. Adequate fluoride feed rate control and mixing shall be provided.

~~8. 7. Provisions shall be made for venting hydrofluorosilicic acid carboys to the outside of the building when the carboys are in use.~~

E. Suitable protective equipment shall be provided which includes gloves, aprons, dust mask, and goggles.

F. Suitable equipment shall be provided for wet mopping wet mopping and hosing dust that might accumulate in the plant. Dry feeders shall be equipped with bag loading hoppers.

G. Equipment shall be provided for measuring the quantity of fluoride ion in the water. Testing equipment shall be colorimetric or electrode type as approved by the division [commissioner department].

12VAC5-590-940. Fluoride removal.

A. Fluoride removal may be accomplished by blending with a different quality water or by removal treatment. Where fluoride removal is required, the treatment units shall be designed to achieve a finished water fluoride concentration that is below the SMCL.

~~A. B. Blending. Blended water must shall result in all water delivered to the distribution system being of the same quality.~~

B. C. Treatment.

~~1. Chemical feed shall conform to 12VAC5-590-860.~~

~~2. 1. Treatment includes use of shall include ion exchange, activated alumina, bone char, reverse osmosis RO, or electro dialysis. Other processes may be utilized if they adequately defluoridate. The selected design is to shall be supported by pilot studies, unless at least two pilot studies, or two prototype plants, have demonstrated that the selected design is feasible. Such These studies or prototypes should shall be for waters having characteristics similar to the water that is to be treated.~~

~~3. Raw water 2. Water pH shall be adjustable to an optimum level to achieve the best fluoride removal.~~

~~4. 3. With any one unit out of service, the remaining unit or units must shall be capable of handling peak day flows treating the maximum plant flow rate.~~

~~5. 4. Filter clogging constituents such as iron having a concentration greater than 1.0 milligrams per liter should mg/L shall be removed prior to defluoridation before fluoride removal. If applicable, chlorination is to be applied after defluoridation.~~

~~6. 5. Test equipment must shall be provided and must be accurate to at least 0.1 milligrams per liter mg/L.~~

~~7. 6. An operation and maintenance (O & M) manual must shall be provided.~~

12VAC5-590-950. Stabilization Corrosion control or stabilization.

A. Water that is unstable due either to natural causes or to the treatment given applied to the water should shall be stabilized. Water treated with excess lime for softening or manganese removal shall be treated by carbon dioxide or acid.

~~A. Carbon dioxide addition.~~

~~1. The recarbonation chamber design should provide:~~

~~a. A detention time of three to 10 20 minutes;~~

~~b. A depth of about eight feet; and~~

~~c. A reaction tank with a detention time of 20 minutes.~~

~~2. Adequate precautions shall be taken to prevent the possibility of carbon monoxide entering the plant from the recarbonation and reaction chamber.~~

~~B. Sulfuric acid.~~

~~1. Feed equipment for sulfuric acid shall conform to 12VAC5-590-860.~~

~~2. Adequate precautions shall be taken for safety.~~

~~C. Removal of free carbon dioxide. Carbon dioxide may be removed by an alkali, following aeration. The addition of an alkali following aeration may not be necessary when the alkalinity of the aerated water is greater than 80 milligrams per liter.~~

~~D. B. Deposition of calcium carbonate film. The desired calcium carbonate film may be obtained by using either soda ash or caustic soda when the alkalinity of the water exceeds about 35 milligrams per liter mg/L. Soft waters should be treated with lime to provide the required calcium. Soft waters which that also have a low carbon dioxide content may need a mixture of lime and soda ash to provide both calcium and carbonate for the calcium carbonate film.~~

~~E. Polyphosphates. Polyphosphates are applicable for sequestering dissolved minerals.~~

~~1. Feed equipment shall conform to 12VAC5-590-860.~~

~~2. Phosphate chemicals shall be food grade.~~

~~3. Stock phosphate solution shall be kept covered and disinfected by carrying approximately 10 milligrams per liter chlorine residual.~~

~~4. Satisfactory chlorine residuals should be maintained in the distribution system when phosphates are used.~~

~~F. Under some conditions, softening plants can be designed using split treatment in which raw water is blended with~~

softened water to partially stabilize the water. Treatment plants designed to utilize split treatment should, in most cases, also contain facilities for further stabilization by other means.

~~G. Water unstable due to biochemical action in the distribution system. Residual chlorine throughout the distribution systems may be used to prevent corrosion due to decomposition of organic matter (especially in dead ended mains), the biochemical action within tubercles and the reduction of sulfates to sulfides.~~

C. Phosphates or other corrosion inhibitors may be used for corrosion control when applied in accordance with manufacturer recommendations and when they meet the requirements of 12VAC5-590-515. Stock phosphate solution shall be disinfected in accordance with manufacturer recommendations unless the phosphate solution is fed directly from the covered shipping container.

~~H. D. Cathodic protection may be used to prevent or minimize shall be acceptable for preventing or reducing corrosion of the inner surfaces of water storage tanks and standpipes and the outer surfaces surface of metal conduits pipe.~~

~~I. E. Laboratory equipment shall be provided for determining the effectiveness of stabilization treatment and the concentration of chemicals in the treated water.~~

12VAC5-590-960. Taste and odor control.

~~Tastes and odors found in water are primarily organic in nature. Since the presence of taste and odor problems in a water supply suggests to the consumer that the water may contain potentially toxic agents, expenditures are justified to improve the aesthetic quality of the water and maintain the consumers' confidence in the water utility.~~

~~A. Source treatment. Taste and odor problems in raw water sources are most frequently caused by the presence of plankton, or more specifically, algae. The treatment methods and dosages listed below have been found effective in some applications.~~

~~4. A. The continuous or periodic treatment of raw water source waters with copper sulfate and other copper compounds to kill algae or other growths shall be controlled to prevent a copper concentration in excess of 1.0 milligrams per liter mg/L, as copper, in the finished water leaving the treatment plant finished water.~~

~~2. The periodic treatment of the shallow areas of a reservoir with an activated carbon dosage of 0.2 to 0.5 pounds per 1,000 square feet of water surface has been found effective in some applications.~~

~~3. A potassium permanganate dosage from 0.4 to 4.0 milligrams per liter has been found effective in some applications.~~

~~4. Chlorine dosages that produce 0.2 to 1.0 milligrams per liter of free chlorine in the treated water have been found~~

~~effective in some applications. Prior to treatment, this treatment method should be evaluated to determine that it will not cause any objectionable tastes or odors in the treated water.~~

~~B. Treatment methods. The waterworks shall be designed to produce high quality water regardless of any changes or emergencies that may arise with the raw water source. Provisions to handle taste and odor problems should be included in all designs regardless of the anticipated raw water quality.~~

~~1. Provisions shall be included in the design of the treatment plant to add chlorine or other approved oxidizing chemicals at the reservoir or at the head of the treatment plant. If breakpoint chlorination is proposed to treat taste and odor problems, extreme caution is warranted to insure that the actual breakpoint of the water is determined accurately. Dechlorination may be required if deemed necessary.~~

~~2. Chlorine dioxide can be utilized to treat any taste and odor problems susceptible to oxidation.~~

~~3. Potassium permanganate has oxidizing capabilities that can be utilized to treat taste and odor problems. It is normally fed to the raw water during the flash mix operation in a dosage such that the pink color formed during its solution travels only 1/2 to 2/3 of the length of the sedimentation basins.~~

~~4. Aeration has been used successfully to treat tastes and odors attributed to volatile organic matter but has shown limited success in treating tastes and odors associated with dissolved and suspended organic matter. Aeration facilities shall be designed in accordance with the provisions of 12VAC5-590-910.~~

~~5. When taste and odor problems are anticipated on an intermittent basis, treatment facilities shall be included in the water treatment plant design for the addition of powdered activated carbon. The dosage of powdered activated carbon required to treat taste and odor problems will vary with each individual raw water, and extensive lab work should be undertaken to ascertain that the carbon feed equipment is properly sized. The carbon feed equipment shall be capable of adding at least 40 milligrams per liter of powdered activated carbon regardless of the anticipated raw water quality. In the water treatment plant design, facilities should be provided to add powdered activated carbon to the flash mixer, to the flocculation basins, at the midpoint of sedimentation basins, and to the conduits leading to the filters.~~

~~The carbon can be added as a premixed slurry, or by means of a dry feed machine as long as it is assured that the carbon is properly wetted. All mechanisms for handling dry carbon should be tightly sealed and dust collection is required on all installations. The feed machine hopper wall should be on at least a 60 degree angle to the horizontal.~~

Regulations

The carbon feed lines to the application points should be sized to handle the carbon suspension and should be equipped with flushing provisions.

B. Surface water aerators or diffused aeration systems shall be acceptable for de-stratifying reservoirs, reducing or eliminating seasonal turnover, and releasing compounds in the anaerobic or anoxic zones.

C. Addition of chemical oxidants at the source water intake, in the source water pump station discharge line, at the head of the treatment plant, or within the treatment train shall be acceptable for treating tastes and odors. Effective oxidants include chlorine, chlorine dioxide, potassium permanganate, and ozone. If breakpoint chlorination is proposed, then the actual breakpoint of the water shall be determined accurately. "Breakpoint chlorination" means the addition of chlorine to water until the chlorine demand has been satisfied, chlorine and ammonia nitrogen reactions are near completion, and further additions of chlorine result in a free chlorine residual that is directly proportional to the amount of chlorine added.

~~6. Granular activated carbon units may be used in place of filters described in 12VAC5-590-880 with appropriate pretreatment described in 12VAC5-590-870. Rates of flow shall be consistent with the type and intensity of the problem. The design of the facilities must be supported by the results of pilot plant studies~~

D. Powdered activated carbon (PAC). When taste and odor problems are anticipated on an intermittent basis, the addition of PAC shall be considered, and a pilot study shall be conducted to determine the optimum dosage. Multiple PAC feed locations shall be evaluated to provide maximum contact time, including the rapid mixer, the flocculation basins, and at the midpoint of the sedimentation basins.

1. PAC shall not be applied near the point of chlorine or other oxidant application.

2. Continuous agitation or resuspension equipment shall be required to keep the PAC from depositing in the slurry or storage tank.

3. All mechanisms for handling dry PAC shall be tightly sealed. Dust collection is required at all installations.

4. The PAC feed lines to the application points shall be sized to handle the PAC suspension and should be equipped with flushing provisions.

E. GAC media shall be acceptable in conventional gravity filters or in separate contactors to reduce taste and odor.

F. Ozonation shall be acceptable for taste and odor control.

12VAC5-590-970. Removal of volatile synthetic organic chemicals (VOCs). (Repealed.)

~~Appropriate processes or technologies (either specified as BAT in Appendix N or a division approved alternative, such~~

~~as other aeration techniques) that treat all the water in the waterworks shall be applied to achieve compliance. The selected design is to be supported by pilot studies unless at least two pilot studies, or two prototype plants, have demonstrated that the selected design is feasible. Such studies or prototypes shall be for waters having characteristics similar to the water that is to be treated.~~

~~A. Granular Activated Carbon (GAC). As in taste and odor control, GAC units may be used with appropriate pretreatment described in 12VAC5-590-870 B. The elements of a GAC system include carbon contactors, a carbon storage and transfer system, a regeneration system and a control system.~~

~~The selected GAC shall meet AWWA Standards. Multiple units shall be provided to process at least the peak day flow rate with one unit out of service. As carbon is corrosive, the use of noncorrosive piping and storage materials is mandatory.~~

~~B. Packed tower aeration. (Also see 12VAC5-590-910.)~~

~~1. Usually more efficient than other types of waterfall (natural) aeration.~~

~~2. With one unit out of service, the remaining unit(s) must be capable of handling peak day flows.~~

12VAC5-590-975. Removal of radionuclides.

A. Processes for the removal of radionuclides specified as BAT are identified in 40 CFR 141.66. The specific process and equipment proposed for removal of radionuclides shall to the satisfaction of the [~~commissioner~~ department] have a demonstrated history of successful performance with similar water quality characteristics and performance requirements. Otherwise, the procedures of 12VAC5-590-290 shall apply.

B. When manganese greensand filter systems are utilized, the design shall meet the requirements of 12VAC5-590-920 B. In addition, a chemical contact tank with a minimum detention time of 30 minutes shall be provided. Laboratory or pilot studies may be required to demonstrate compliance with the radium standard when using a filtering treatment system for groundwater with total radium greater than 10 pCi/L.

C. Waste handling, disposal, and permitting shall be given special consideration early in the design process.

D. Occupational exposure shall be considered in the project design.

E. Provisions for operational control monitoring of the radionuclides requiring removal or of acceptable surrogates shall be included in the project design.

12VAC5-590-980. Microscreening. (Repealed.)

~~A microscreen is a mechanical supplement to treatment capable of removing suspended matter from water by straining. It shall not be used as a substitute for clarification or filtration.~~

~~A. The design of microscreening facilities shall give due consideration to:~~

- ~~1. A sanitary survey and chemical and biological evaluation;~~
- ~~2. The nature of suspended matter to be removed;~~
- ~~3. The corrosiveness of water;~~
- ~~4. The effect of chlorination when required as pretreatment; and~~
- ~~5. Control of the hydraulic capacity of the microscreen.~~

~~B. The design shall provide:~~

- ~~1. For durable, corrosion resistant screens;~~
- ~~2. A bypass and cleaning arrangement;~~
- ~~3. Duplicate units for continuous operation;~~
- ~~4. Protection against back siphonage when potable water is used for washing; and~~
- ~~5. Proper disposal of wash water.~~

12VAC5-590-985. GAC contactors.

A. Granular activated carbon (GAC) contactors may be used to adsorb natural organic compounds, taste and odor compounds, and SOCs. The most common applications of GAC contactors in drinking water treatment plants are (i) post-filtration adsorption and (ii) filtration-adsorption, in which some or all of the filter media in a granular media filter is replaced with GAC.

B. General requirements.

1. A demonstration study using bench-scale or pilot-scale tests shall be conducted to determine the GAC media effectiveness, adsorption efficiency, and regeneration frequency.
2. GAC contactors shall be sized for the optimum empty bed contact time.
3. A minimum of two contactor units shall be provided.
4. Bypassing the GAC facility may be permissible under certain circumstances to accommodate seasonal water quality fluctuations and allow for blending water.

C. Hydraulic configuration.

1. Pressure vessel installation may be configured in parallel or in series.
2. For pressure contactors, pre-filter and post-filter pressure gauges shall be installed at each individual contactor unit.
3. The rate of flow through the contactors shall be controlled either manually or automatically to ensure equal flow through each contactor.

D. Design details.

1. For pressure contactors, the maximum pressure loss through the vessels shall be as determined by the product manufacturer.

2. Sample taps, isolation valves, and bypass piping shall be provided before and after each individual contactor unit.

3. Pipes, tanks, and appurtenances shall be corrosion resistant.

4. The GAC facility shall provide the ability to filter-to-waste to prevent carbon fines in the effluent water.

5. Unless otherwise approved by the [~~commissioner~~ department], disinfection shall be accomplished following the GAC contactors.

6. If backwashing of GAC specific units is required, then unchlorinated filtered water shall be used.

7. Turbidity monitoring of contactor effluent shall be considered.

8. The facility design shall include provisions for spent carbon disposal, GAC delivery, and storage.

12VAC5-590-990. Waterworks waste.

A. With the exception of sanitary sewage and flows recycled through the water treatment system, the wastes generated during the operation of water filtration plants constitute industrial wastes and are subject to the State Water Control Law (Chapter 3.1 (§ 62.1-44.2 et seq.) of Title 62.1 of the Code of Virginia).

Industrial wastes generated by water treatment facilities include, ~~but are not limited to,~~ the following:

1. Filter backwash water;
2. Coagulant ~~sludges~~ residuals;
3. Softening ~~sludges~~ residuals;
4. ~~Microscreening~~ sludges;
- ~~5. 4. Iron and manganese~~ ~~sludges~~ residuals;
- ~~6. Sludges~~ 5. Settled solids from presedimentation units; and
- ~~7. 6. Brine~~ wastes.

B. After receipt and review of plans and specifications from the consulting engineer for the water treatment facilities, the ~~division~~ [~~commissioner~~ department] will advise ~~the State Water Control Board~~ DEQ of any proposal to treat and discharge industrial wastes into state waters. The ~~division~~ commissioner department] will submit ~~to the State Water Control Board~~ a letter or report to ~~include~~ DEQ that includes the following:

1. Capacity of the proposed treatment facilities;
2. Location of the proposed facilities;
3. Proposed final disposition of the treated waste effluent;

Regulations

4. Name and address of the consulting engineer; and
5. Name and address of the owner.

C. Except for recycle flows as described in ~~12VAC5-590-420~~ 12VAC5-590-395 C, the ~~State Water Control Board~~ owner will then deal directly with the consulting engineer in reference to need to satisfy DEQ's requirements for the final disposal of these wastes and.

D. The sanitary wastes from water treatment plants must receive treatment. Wastes from these facilities ~~must~~ shall be discharged either directly to a sanitary sewer system or to an ~~approved~~ individual waste disposal facility providing suitable treatment approved by the State Water Control Board.

12VAC5-590-1000. Disinfection.

A. ~~Objective. To~~ The objective of disinfection is to prevent the occurrence of waterborne diseases from the consumption of drinking water.

B. ~~Methods. Disinfection shall be accomplished by the application of chlorine. The specific chlorine compound shall be selected on the basis of water flow rates, application rates, pH of the water, cost of equipment and chemicals, availability of disinfectant, and reliability of feed equipment. Alternate chemicals and methods for disinfection are to be handled as unconventional and the procedures of 12VAC5-590-300 apply.~~

C. Equipment.

- ~~1. Solution feed vacuum type gas chlorinators are generally preferred. The use of hypochlorite feeders of the positive displacement type may be considered for small installations.~~
- ~~2. Chlorinator capacities will vary, depending on the use and point of application of the chlorine and the raw water quality. Chlorination capacity shall be such that a minimum dosage of 15 milligrams per liter may be fed at all times.~~
- ~~3. Standby chlorination equipment shall be provided and chlorination capacities shall comply with 12VAC5-590-1000 C 2 with any unit out of operation for repairs. Spare parts shall be available for all chlorinators to replace parts which are subject to wear and breakage. All chlorinators shall be properly maintained and operated.~~
- ~~4. An ample supply of potable water shall be available for operating the chlorinator. Where a booster pump is required, duplicate equipment shall be provided, and, when necessary, standby power as well. Equipment for backflow prevention shall be provided. A pressure gauge shall be provided on each chlorinator water supply line.~~
- ~~5. Scales for weighing cylinders shall be provided at all waterworks using chlorine gas. At large waterworks, scales of the indicating and recording type are recommended. Scales shall be recessed unless they are of the low platform type.~~

~~6. Where manifolding of several cylinders is required to evaporate sufficient chlorine, consideration shall be given to the installation of gas evaporators.~~

~~7. A bottle of ammonia hydroxide solution shall be available for detecting chlorine gas leaks. Consideration shall also be given to the provision of caustic soda solution reaction tanks for absorbing the contents of leaking one ton cylinders where such cylinders are in use. At large installations, consideration should be given to the installation of automatic gas detection and related alarm equipment. Emergency cylinder repair kits shall be provided.~~

8. Piping and connections for chlorine gas.

- ~~a. Piping arrangements should be as simple as possible. Pressure gauges shall be installed on the piping to each chlorinator. The number of screwed or flanged joints should be held to a minimum. Piping systems should be well supported and adequately sloped to allow drainage; low spots should be avoided. Suitable allowance should be provided for pipe expansion due to changes in temperature. Liquid chlorine has a high coefficient of thermal expansion. If liquid chlorine (containing no gas bubbles) is trapped between two valves, high pressure will develop upon increase in the temperature of the chlorine. This pressure may lead to hydrostatic rupture of the line. The effects of possible rupture should be considered in the design of any piping system. Where such rupture would present an undue hazard to personnel or equipment by allowing large quantities of chlorine to escape, protection of the system against hydrostatic pressure should be provided.~~
- ~~b. Condensation or reliquefaction of chlorine may occur in chlorine gas lines which pass through areas where the temperature is below the temperature pressure equilibrium indicated in the vapor pressure curve. Where adequate superheat is not provided by a vaporizer, condensation can be prevented by reducing the pressure with a pressure reducing valve.~~
- ~~e. It is recommended that joints in chlorine piping be flanged or welded. If threaded joints are used, extreme care should be taken to obtain clean, sharp threads. A lubricating pipe dope suitable for chlorine should be used. All threading oil must be thoroughly cleaned from the pipe. For permanent joints, linseed oil and graphite, glycerine or Teflon tape may be used. If Teflon tape is used, all remnants must be removed before joints are remade.~~
- ~~d. Fittings and appurtenances must be suitable for handling dry chlorine.~~

~~9. Chlorine solution is very corrosive to all of the common construction metals. At low pressures, chlorine solution can be handled in chemical stoneware, glass or porcelain equipment, and by certain alloys. Hard rubber, unplasticized polyvinylchloride, glassfiber reinforced polyester,~~

polyvinylidene chloride, and fully halogenated fluorocarbon resins have been used successfully. Low molecular weight polyethylene, fiber reinforced rubber hose, and wrapped rubber hose have been used successfully for small capacity chlorinators. All of these materials must be selected with great care. For higher pressures, combinations using resistant lining materials (rubber, kynar, saran, Teflon, etc.) with the common metals for strength should be used.

Titanium may be used with chlorine solution, but must not be used with chlorine gas. Tantalum is inert to chlorine solution at temperatures up to 300°F. Hastelloy Alloy C® and Monel Alloy® are widely used. Platinum and silver find special applications. In general, operations involving chlorine solution require individual study.

Chlorine and equipment suppliers shall make recommendations only after careful survey of all factors involved.

10. Chlorine solution and hypochlorite solution piping shall be arranged such that prechlorination or postchlorination may be accomplished by any or all chlorinators.

D. Engineering design.

1. Any building to house chlorine equipment or containers should be designed and constructed to protect all elements of the chlorine system from fire hazards. If flammable materials are stored or processed in the same building, a fire wall should be erected to separate the two areas. Fire resistive construction is recommended.

If gas chlorination equipment and chlorine cylinders are to be in a building used for other purposes, a gas tight partition shall separate this room from any other portion of the building. Doors to this room shall open only to the outside of the building, and shall be equipped with panic hardware. Such rooms shall be at ground level, and should be separated from the feed area.

At least two means of exit should be considered from each separate room or building in which chlorine is stored, handled, or used. All exit doors shall open outward.

A clear glass, gas tight window shall be installed in an interior wall of the chlorinator room to permit the chlorinators to be viewed without entering the room.

Feed lines shall not carry chlorine gas beyond the chlorine feeder room unless the chlorine is under vacuum.

2. Chlorinator rooms shall be provided with a means of heating so that a temperature of at least 60°F can be maintained, but the room should be protected from excess heat. Cylinders shall be kept at essentially room temperature for at least 24 hours prior to use unless an evaporator is employed.

3. Forced, mechanical ventilation which will provide one complete air change per minute shall be installed in all

chlorine feed rooms and rooms where chlorine cylinders are stored. The entrance to the air exhaust duct from the room shall be near the floor and the point of discharge shall be located so as not to contaminate the air inlet to any building or inhabited areas. Air inlets shall be located so as to provide cross ventilation with air and at such temperature that will not adversely affect the chlorination equipment. The vent hose shall run without traps from the chlorinator and shall discharge to the outside atmosphere above grade.

4. The electrical controls for the fans and lights shall be such that they will automatically operate when the door is opened and can be manually operated from the outside without opening the door.

E. Respiratory protection. The use of self contained breathing apparatus (SCBA) in compliance with OSHA Respiratory Protection Standard 1910.134, "VIRGINIA OSHA STANDARDS" for General Industry, is required whenever anyone is dealing with an accidental release of chlorine. All waterworks that use chlorine gas at their treatment facility shall maintain a respiratory protection plan including emergency procedures, evacuation plans, designated SCBA personnel and any special site specific requirements. All respiratory protection devices shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals; and in a location remote from the chlorine area.

F. Application of chlorine.

1. Provisions shall be made to ensure uniform mixing of the chlorine solution or hypochlorite solution with the water near the point of application.

2. Residual and contact time.

a. Waterworks with surface water sources shall provide a minimum residual (C) and contact time (T) as calculated in accordance with Appendix L. Appendix L contains information on CT calculations and methods, as well as information on contact tank baffling arrangements.

b. Waterworks with groundwater sources shall provide a minimum 30 minute hydraulic detention period (based on design flow) for chlorine contact.

G. Evaluation of effectiveness.

1. Sampling—see 12VAC5-590-770.

2. Equipment shall be provided for measuring chlorine residual employing any method listed in the most recent edition of "Standard Methods for the Examination of Water and Wastewater."

The equipment should enable residual chlorine measurement to the nearest 0.1 milligram per liter in the range below 0.5 milligram per liter, and to an accuracy of approximately 25% above 0.5 milligram per liter. The installation of continuous automatic chlorine residual analyzers recording and proportioning systems may be required on large installations.

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B. Primary disinfection shall be provided for all surface water sources, all spring sources, all GUDI sources, and all well sources determined to be of questionable bacteriological quality as required by the [~~commissioner~~ department]. Consideration shall be given to minimizing the formation of DBPs when designing a disinfection process. Waterworks with groundwater sources requiring disinfection under this section shall meet the requirement of 12VAC5-590-421 A 1 d.

C. All pipes, tanks, and equipment that convey, store, or treat potable water shall be disinfected with chlorine before being placed in service in accordance with the following AWWA standards where applicable: C651-14, [~~C652-14~~ C652-19], and [~~C653-13~~ C653-20].

D. All residual disinfectant determinations shall be made using methods identified in 12VAC5-590-440.

1. The project documents shall outline the procedures and include the disinfectant dosage, contact time, and method of testing the results of the procedure.

2. Methods of disinfection other than chlorination may be considered by the [~~commissioner~~ department] on a individual basis.

12VAC5-590-1001. Chlorination.

A. General design requirements.

1. Chlorine feed capacity shall be capable of meeting the disinfection requirements under all operating conditions.

a. Chlorine feed systems for primary disinfection at a waterworks using a surface water source, a GUDI source, or both shall provide sufficient capacity to achieve the required microbial log inactivation specified in Table 500.1.

b. Chlorine feed systems for primary disinfection at a waterworks using groundwater sources shall provide sufficient capacity to achieve 4-log virus inactivation and removal.

c. Chlorine feed systems for secondary disinfection at a waterworks shall provide sufficient capacity to achieve a minimum chlorine residual at the entry point of 0.2 mg/L for more than 4 hours.

2. Chlorine feed systems for disinfection at a waterworks using a surface water source, a GUDI source, or both shall be sized to deliver the required dose with the largest unit out of operation. Small hypochlorination installations for groundwater source waterworks shall have a spare metering pump, unless it can be demonstrated to the satisfaction of the [~~commissioner~~ department] that spare equipment is readily available from a local supplier. Spare parts shall be available for all chlorinators to replace parts that are subject to wear and breakage.

3. Consideration shall be given to providing multiple chlorine feed points at all waterworks. For conventional

filtration treatment plants, chlorine feed points shall be provided for the source water, applied water to the filters, and filter effluent.

4. The piping providing the water for preparing the chlorine solution shall be designed to prevent contamination of the "bulk treated" finished water.

a. At all facilities treating surface water, pre-filtration and post-filtration disinfection systems shall operate independently of each other to prevent possible siphoning of partially treated water into the clearwell.

b. The water piping to each ejector shall have a separate shutoff valve. A master shutoff valve is prohibited.

5. Provisions shall be made to ensure uniform mixing of the chlorine with the water near the point of application.

6. Residual and contact time.

a. The owner of a waterworks using a surface water source, a GUDI source, or both shall provide a minimum residual (C) and contact time (T) as calculated in accordance with 12VAC5-590-500.

b. The owner of a waterworks using a groundwater source that is required to disinfect shall provide a minimum residual (C) and contact time (T) to achieve 4-log virus inactivation and removal based on maximum design flow rate. Provisions shall be made to prevent short circuiting. The contact basin shall be designed utilizing the appropriate baffle factors referenced in Table 500.15 of 12VAC5-590-500.

7. Automatic proportioning chlorinators shall be provided where the rate of flow is not reasonably constant.

8. Equipment shall be provided for measuring the chlorine residual, employing any method specified in 12VAC5-590-440. The equipment shall be capable of a chlorine residual measurement to the nearest 0.1 mg/L.

9. Continuous chlorine residual analyzers shall be provided at all waterworks that are required to filter and that serve 3,300 or more persons or at any waterworks required by the [~~commissioner~~ department]. Where a continuous chlorine residual analyzer is provided, the [~~commissioner~~ department] may require that the design incorporate an operator-selected high or low chlorine residual alarm.

B. Gas chlorine feed systems.

1. Equipment.

a. An ample supply of potable water shall be available for operating the chlorinator. Where a booster pump is required, duplicate equipment shall be provided, and when necessary, standby power shall be provided as well. Equipment for backflow prevention shall be provided. A pressure gauge shall be provided on each chlorinator mixing water piping.

- b. Scales for weighing cylinders shall be provided at all waterworks using chlorine gas. At large waterworks, scales of the indicating and recording type shall be considered. Scales shall be recessed unless they are of the low-platform type.
- c. Where a manifold of several cylinders is required to evaporate sufficient chlorine, consideration shall be given to the installation of gas evaporators.
- d. Automatic switch-over of chlorine cylinders shall be provided to assure continuous disinfection.
2. Chlorine gas leak detection.
- a. Automatic chlorine gas leak detection with strategically located sensors and related alarm equipment shall be provided for all installations.
- b. A bottle of ammonia hydroxide solution shall be provided for detecting chlorine gas leaks.
3. Emergency cylinder repair kits shall be provided.
4. Consideration shall be given to the provision of caustic soda solution reaction tanks for absorbing the contents of leaking one-ton cylinders where the cylinders are in use.
5. Piping and connections for chlorine gas.
- a. Pressure gauges shall be installed on the piping to each chlorinator. Piping systems shall be well supported and adequately sloped to allow drainage. Suitable allowance shall be made for pipe expansion due to changes in temperature.
- b. Fittings and appurtenances shall be suitable for handling dry chlorine.
6. Building design.
- a. Any building to house chlorine equipment or containers shall be designed and constructed to protect all components of the chlorine system from fire hazards. See 12VAC5-590-720.
- b. If gas chlorination equipment and chlorine cylinders are to be in a building used for other purposes, a gas-tight partition shall separate this room from any other portion of the building. Doors to this room shall open only to the outside of the building and shall be equipped with panic hardware. These rooms shall be at ground level and should be separated from the feed area.
- c. At least two means of exit shall be considered from each separate room or building in which chlorine is stored, handled, or used. All exit doors shall open outward.
- d. A clear glass, gas-tight window shall be installed in an interior wall of the chlorinator room to permit the chlorinators to be viewed without entering the room.
- e. Feed lines shall not carry chlorine gas beyond the chlorine feeder room unless the chlorine is under vacuum.
- f. Chlorinator rooms shall be provided with a means of heating so that a temperature of at least 60°F can be maintained, but the room should be protected from excess heat. Cylinders shall be kept at essentially room temperature for at least 24 hours before use unless an evaporator is employed.
- g. Forced, mechanical ventilation that provides one complete air change per minute shall be installed in all chlorine feed rooms and rooms where chlorine cylinders are stored. The inlet to the air exhaust duct from the room shall be near the floor, and the point of discharge shall be located so as not to contaminate the air inlet to any building or inhabited areas. Air inlets shall be located so as to provide cross ventilation with air and at a temperature that will not adversely affect the chlorination equipment. The vent hose shall run without traps from the chlorinator and shall discharge to the outside atmosphere above grade.
- h. The electrical controls for the fans and lights shall automatically operate when the door is opened and can be manually operated from the outside without opening the door.
- C. Calcium hypochlorite and sodium hypochlorite feed systems.
1. Both calcium hypochlorite and sodium hypochlorite shall be acceptable for disinfection.
2. Hypochlorite solution feeders of the positive displacement type shall be provided.
3. Adequate mixing of the calcium hypochlorite or sodium hypochlorite solutions shall be provided.
4. Special design considerations for bulk delivery systems:
- a. Bulk sodium hypochlorite storage tanks shall be constructed of corrosion-proof materials. Pumps, piping, materials, and appurtenances exposed to the sodium hypochlorite shall be suitable for such use.
- b. Sodium hypochlorite storage facilities shall be designed to keep ambient temperature and lighting low. Sodium hypochlorite fumes are corrosive and tanks shall be vented to the outside. Tanks shall be designed for ease of filling, draining, and transfer of contents.
- c. Piping, valves, pumps, and pipe accessories shall be designed and configured so as not to allow accumulation of gases that could cause air locking or loss of prime in chemical feed piping or pumps.
- d. The design shall provide a system of local or general exhaust features to keep employee exposures below the airborne exposure limits, as described in the Safety Data Sheet for the chemical used, in accordance with federal occupational safety and health standards (29 CFR 1910.1200 (g)). Local exhaust ventilation is generally preferred because it controls contaminant emissions at the source and thus, preventing dispersion into the general work area which could result in corrosion or exposure.

Regulations

Exhaust equipment and accessories shall be corrosion proof.

e. An eye wash fountain and quick-drench facilities in the immediate work area shall be provided.

12VAC5-590-1002. Chloramination.

A. Chloramines shall be acceptable for secondary disinfection. Chloramines are formed by the reaction of ammonia and chlorine. Multiple chemical species may be created; however, monochloramine is the desired form.

B. The process shall be controlled to minimize formation of dichloramine and nitrogen trichloride, which can create objectionable taste and odors. Control should be sufficient to limit free ammonia leaving the chloramination facility to no more than 0.1 mg/L as nitrogen.

C. pH adjustment facilities shall be provided to maintain pH in the range of 7 to 8.

D. When use of chloramines is proposed, the potential increase of lead leaching within the distribution system shall be considered. Additional distribution system monitoring may be required by the [commissioner department].

E. The owner shall inform the public before initiating any disinfection process involving chloramines, as directed by the [commissioner department].

12VAC5-590-1003. Chlorine dioxide addition.

A. Chlorine dioxide may be considered as a pre-oxidant to control tastes and odors, reduce color, oxidize iron and manganese, and reduce DBPPs. Chlorine dioxide may be used for primary disinfection. Where chlorine dioxide is used, consideration shall be given to the formation of the byproducts chlorite and chlorate.

B. Chlorine dioxide is generated onsite from sodium chlorite and either chlorine gas or hypochlorite solution. Chlorine dioxide generation equipment shall be factory assembled, pre-engineered units with a minimum efficiency of 95%. The excess free chlorine shall not exceed 3.0% of the theoretical stoichiometric concentration required.

C. The owner shall inform the public before using chlorine dioxide, as directed by the [commissioner department].

12VAC5-590-1004. Ozonation.

A. Ozone may be considered as a pre-oxidant to control tastes and odors, reduce color, oxidize iron and manganese, reduce DBPPs, and used for primary disinfection. Where ozone is used, consideration shall be given to the level of bromide and formation of brominated byproducts.

B. Ozone systems are typically comprised of four basic subsystems: ozone generation, feed gas preparation, ozone contactors, and off-gas disposal.

C. The PER shall evaluate water and gas flow rates, oxygen source, generator selection and sizing, contactor design, treatment process location, exhaust gas collection and destruction, and operator requirements.

D. Treatability studies using bench-scale or pilot-scale tests may be required as part of the PER to address the following:

1. Alternate points of ozone application;

2. Ozone demand tests, applied dose, transferred dose, and decay rates; and

3. Ozone byproducts, including bromide and bromate analyses.

E. Ozone systems shall be granted disinfection credit for Giardia lamblia, Cryptosporidium, and viruses, in accordance with 12VAC5-590-401 E 7 and 12VAC5-590-500, provided that they meet the requirements of this section.

1. Ozone residual levels shall be monitored continuously and recorded. For waterworks that claim inactivation credit for ozone, a minimum of two dedicated, online monitors per ozone contactor shall be provided. The location of the monitors shall be acceptable to the [commissioner department]. A portable ozone monitor shall be provided as a backup.

2. Ozone systems using multiple, consecutive contact chambers with gaseous ozone injected in the initial chambers, shall be designed to measure the ozone residual and compute log inactivation of Giardia and virus using the $C_{effluent}T_{10}$ Method or the Log Integration CT_{10} Method, as described in the "Long Term 2 Enhanced Surface Water Treatment Rule Toolbox Guidance Manual," EPA Office of Water (4606), EPA 815-R-09-016, April 2010.

3. Sampling lines shall be designed to minimize the reaction time (typically less than 10 seconds conveyance time).

F. Alarms shall be provided for ozone process control safety. Automatic shutdown features shall be considered.

12VAC5-590-1005. Ultraviolet light (UV) disinfection.

A. All UV reactors shall conform to [NSF/ANSI NSF/ANSI/CAN] standards.

B. Each reactor train shall be equipped with an individual flow meter or a single flow meter in conjunction with differential pressure sensors in each treatment train. Reactors shall be sized to treat the design flow.

C. Hydraulic design shall ensure that lamps are submerged and that the entrance of air, negative pressure, or pressure surges in the reactors is prevented. Open channel flow reactors are prohibited.

D. A pressure gauge shall be provided upstream of each reactor. The design shall ensure that the reactor's maximum rated pressure cannot be exceeded.

E. Water quality parameters that may affect UV disinfection system performance shall be evaluated, including calcium, iron, manganese, hardness, and alkalinity. Pretreatment shall be considered for water quality parameters that may result in lamp sleeve fouling.

F. A building to enclose and protect all UV equipment shall be provided. Adequate space between control panels, power supply, and the reactor equipment shall be provided to allow for routine operation and maintenance, including removing lamp and wiper assemblies and for off-line chemical cleaning of reactor lamps.

G. An operation and maintenance manual shall be provided for all UV reactors.

H. UV systems may be used for primary disinfection and shall be granted log inactivation credit for Giardia lamblia, Cryptosporidium, and viruses in accordance with Table 401.7, provided that they meet the requirements of 12VAC5-590-401 E 7 c and this subsection.

1. Only UV reactors that have undergone independent, third-party oversight of the validation testing on a fully assembled system to determine the operating conditions under which the reactors deliver the required UV dose shall be considered for log inactivation credit.

2. The dose-monitoring strategy shall be either the UV intensity set point approach or the calculated dose approach as described in the "Ultraviolet Disinfection Guidance Manual For The Final Long Term 2 Enhanced Surface Water Treatment Rule," Office of Water (4601), EPA 815-R-06-007, November 2006. The dose-monitoring strategy shall be demonstrated through the UV reactor validation testing.

3. At least two reactors shall be provided. Reactors shall be sized to treat the design flow with the largest reactor out of service.

4. Continuous monitoring sensors shall be provided to measure UV intensity. A continuous sensor shall also be provided to measure ultraviolet transmittance (UVT) if the calculated dose approach is utilized.

a. The number of sensors provided shall be the same as that used in validation testing of the reactor.

b. Output from a continuous UVT analyzer shall be capable of being input directly into a control loop for each UV reactor, a SCADA system, or both. A bench-top spectrophotometer may be provided instead of a continuous UVT analyzer.

c. All signals from the sensors shall be displayed for operator response and for recordation.

d. At least one reference sensor for calibration of online UV intensity sensors shall be provided. Reference sensors shall be capable of calibration against a traceable standard.

e. Continuous recording equipment shall be provided with the monitoring sensors to store in memory or print one data point at least every four hours.

5. A means of flow distribution and control among multiple reactors shall be provided. The hydraulic flow profiles and piping configuration shall be identical to or more protective than that tested during equipment validation.

a. For onsite validation, the inlet and outlet piping configuration for the UV facility shall be designed according to manufacturer recommendations and to accommodate any site-specific constraints.

b. To avoid jetting flow and swirling flow, consideration shall be given to exclude expansions for at least 10 pipe diameters upstream of the reactor and to exclude out-of-plane 90-degree bends in series.

c. Each UV reactor shall be capable of being isolated and removed from service. Isolation valves upstream and downstream of each reactor, a drain, and sample taps for each reactor treatment train shall be provided. If the isolation valves are also used for flow control, then the flow control valve shall be located downstream of the UV reactor to limit the disturbance of the flow entering the UV reactor. Bypass piping shall not be allowed.

d. The lateral piping for each UV reactor train shall be sized and configured to provide approximately equal head loss through each UV reactor train over the validated range of flow rates.

6. The control system shall be capable of meeting the monitoring and reporting requirements in 12VAC5-590-401 and 12VAC5-590-570.

7. Automatic shutdown capability under critical alarm conditions shall be provided, including lamp or ballast failure, low liquid level, and high temperature. Alarms shall be provided for low UV validated dose, low UV intensity, low UV transmittance, high flow rate, and mechanical wiper failure.

8. Ground-fault circuit interrupters shall be provided for all lamps. Backup power shall be considered.

9. The owner shall develop a start-up plan and submit the plan to the department for approval. The plan shall include functional testing, determination of validated operating conditions and control settings, performance testing, development of an operation and maintenance manual, and inspection schedules.

I. UV systems not intended for primary disinfection may be used provided that they meet the requirements of this subsection.

1. Continuous sensors to measure UV intensity shall be considered.

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2. Each UV reactor shall be capable of being isolated, removed from service, and be provided with bypass piping.

3. Automatic shutdown capabilities shall be provided in the event of lamp or ballast failure.

Article 4 Pumping Facilities

12VAC5-590-1010. General Basic pumping facility design criteria.

Pumping facilities shall be designed to maintain the sanitary quality of pumped water. ~~Subsurface pits or pump rooms and inaccessible installations should be avoided. All pumps shall be accessible for servicing and repair.~~

12VAC5-590-1020. Location.

~~A. The pumping station shall be located so that the proposed site will meet the requirements of the sanitary protection of the water quality and the hydraulics of the system and be protected against interruption of service by fire, flood, or any other hazard to meet the hydraulic needs of the distribution system, preserve the quality of the water pumped, and shall consider the availability of a power or a fuel supply.~~

B. The station shall be:

1. Elevated to a minimum of one foot above the 100-year flood elevation or protected to ~~such that~~ elevation;
2. Accessible at all times unless ~~permitted~~ allowed to be out of service for a period of inaccessibility by the [commissioner department];
3. Graded around the station so as to lead surface drainage away from the station; and
4. Protected to prevent vandalism and entrance by animals or unauthorized persons;
5. Located with respect to availability of a power or a fuel supply.

12VAC5-590-1030. Groundwater facilities. (Repealed.)

~~Where pumping facilities are used, wells and springs shall be vented by properly hooded and screened pipe extending at least 12 inches above the pump floor or ground surface. Where necessary, provisions shall be made for lubricating the pump from a point at least six inches above the top of the well cover by means which will prevent contamination of the water supply.~~

~~A. General well appurtenances:~~

~~The following well appurtenances are required:~~

1. A sanitary seal shall be provided on the top of the well casing;
2. A properly screened vent with the end elbowed downward shall be provided for the well casing;

~~3. A sampling tap shall be provided for raw water sampling which discharges in a downward direction and away from the well casing;~~

~~4. Adequate control switches, etc., for the pumping equipment shall be provided;~~

~~5. A water meter is required to determine water production for each well and the meter shall be located upstream of the well blow-off;~~

~~6. The well casing shall extend at least 12 inches above the concrete floor or apron surrounding the well;~~

~~7. Adequate support for the well pump and drop pipe shall be provided; and~~

~~8. Each well casing shall be equipped with a drawdown gauge, airline, and appurtenances for measuring the change in the elevation of the water level in the well.~~

~~B. Drilled wells with the prime mover mounted on the casing shall:~~

~~1. Have the casing extend 12 inches above the floor, and be equipped with a flange or suitable sanitary seal;~~

~~2. Have the casing firmly connected to the pump structure or have the casing inserted into a recess extending at least one inch into the base of the pump if a watertight connection is not provided;~~

~~3. Have the base of the pump not less than 12 inches above the pump room floor or apron; and~~

~~4. Have the pump foundation and base designed to prevent water from coming into contact with the joint between the casing and the prime mover.~~

~~C. Submersible pumps. Where a submersible pump is used, the top of the casing shall be effectively sealed against entrance of water under all conditions of vibration or movement of conductors or cables and shall have a gooseneck vent with a screen covered opening.~~

~~D. Discharge piping. The discharge piping shall be provided with separate means to pump (blowoff) water of unsatisfactory quality to a point away from the groundwater source but shall not be directly connected to a sewer. The discharge line shall:~~

~~1. Have control valves located above the pump floor;~~

~~2. Be protected against freezing;~~

~~3. Be valved to permit testing and control of each well;~~

~~4. Have watertight joints;~~

~~5. Have all exposed valves protected; and~~

~~6. Have erosion protection at the point of waste discharge.~~

~~E. General well pump house construction requirements:~~

1. The well pump house floor or apron surrounding the well shall:

- a. ~~Be of good quality concrete with adequate reinforcement;~~
- b. ~~Be a minimum of six inches in thickness;~~
- c. ~~Extend a minimum of three feet in all directions from the well; and~~
- d. ~~Slope at least 1/4 inch per foot towards a screened four inch floor drain to atmosphere.~~

2. Well houses or well pump stations in pits are prohibited.

3. Well pump stations housing chlorination equipment shall meet the requirements of 12VAC5-590-1000.

12VAC5-590-1040. Pump stations.

A. Pump stations associated with surface water sources, treatment facilities, and finished water shall:

1. Have adequate space for the installation of additional units if needed and for the safe servicing of all equipment;
2. Be of durable construction, fire and weather resistant, and furnished with outward opening doors;
3. Have the floor elevation at least six inches above the finished grade, if possible;
4. Have the underground structure waterproofed;
5. Have all floors drained without impairing the quality of water being handled, and, if equipment is contained on the floor, the floor shall slope at least 1/8 inch in every foot to the point of discharge; and
6. Provide suitable outlet for drainage from pump glands without discharging onto the floor.

B. Suction wells. Suction wells shall:

1. Be watertight;
2. Have floors sloped to permit removal of water and entrained solids; and
3. Be covered or otherwise protected against contamination, including contamination by pump lubricants.

C. Equipment servicing in pump stations.

1. Craneways, hoist beams, eyebolts, or other adequate facilities for servicing or removal of pumps, motors, or other heavy equipment shall be provided.
2. Walkways shall be provided to lubrication points of equipment if these are located at intermediate points between floors.
3. Openings in floors, roofs, or wherever else needed for removal of heavy or bulky equipment shall be provided.

4. A convenient tool board or other facilities shall be provided as needed for proper maintenance of the equipment.

D. Stairways and ladders. Stairs are preferred in areas where there is frequent traffic or where supplies are transported by hand. They shall have risers not exceeding nine inches and treads wide enough for safety. Where ladders are used, intermediate landings should be provided if the vertical distance exceeds 10 feet. Stairways and ladders shall:

1. Be provided between all floors and in pits or compartments which must be entered and;
2. Have handrails on both sides and treads of nonslip material.

E. Heating. In pump houses not occupied by personnel, only enough heat need be provided to prevent freezing of equipment or treatment process. Provision shall be made for adequate heating for the comfort of the operator and the safe and efficient operation of the equipment.

F. Ventilation. Adequate ventilation shall be provided for all pumping stations. Forced draft ventilation of at least six changes of air per hour (continuous operation) shall be provided for:

1. All rooms, compartments, pits and other enclosures below the grade floor; and
2. Any area where an unsafe atmosphere may develop or where excessive heat may build up.

G. Dehumidification. In areas where excess moisture could cause hazards to safety or damage to equipment, means for dehumidification shall be provided.

H. Lighting. Pump stations shall be adequately lighted throughout. All electrical work shall conform to the requirements of the state codes.

I. Pumps. At least two pumping units shall be provided. If only two units are provided, each shall be capable of delivering the peak demand. If more than two units are installed, they shall have sufficient capacity so that if any one pump is out of service, the remaining pumps are capable of carrying the peak demand. The pumping units shall:

1. Have ample capacity to supply the peak demand without overloading;
2. Be driven by a prime mover able to operate against the maximum head and air temperature which may be encountered; and
3. Have maintenance parts and tools readily available.

J. Suction lift. If suction lift is necessary, provision shall be made for priming the pumps. Suction lift should be less than 15 feet.

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~~K. Priming. Prime water must not be of lesser sanitary quality than that of the water being pumped. Means shall be provided to prevent back siphonage. When an air operated ejector is used, the screened intake shall draw clean air from a point at least 10 feet above the ground or other source of contamination, unless the air is filtered by an apparatus approved by the Division. Vacuum priming may be used.~~

A. Enclosures.

1. The structure that houses a pump shall be of durable construction, fire and weather resistant, and furnished with lockable, outward opening doors. Underground structures shall be waterproofed.

2. Floors.

a. Pump house floors shall be of good quality concrete with adequate reinforcement and have a minimum thickness of six inches.

b. Pump house floors shall slope at least 1/8 inch per foot toward a screened four-inch-diameter floor drain to the atmosphere or other provisions for gravity drainage.

c. The pump house finished floor elevation should be at least six inches above the finished grade.

3. Openings in floors or roofs or elsewhere for removal of heavy or bulky equipment shall be provided.

a. Craneways, hoist beams, eyebolts, or other adequate facilities for servicing or removal of pumps, motors, or other heavy equipment shall be provided.

b. Adequate means of access shall be provided to lubrication points of equipment if these are located at intermediate points between floors.

4. Heat shall be provided for the safe and efficient operation of the equipment.

5. Adequate ventilation shall be provided for all pumping stations. Forced draft ventilation of at least six changes of air per hour (continuous operation) shall be provided for:

a. All rooms, compartments, pits, and other enclosures below grade; and

b. Any area where an unsafe atmosphere may develop or where excessive heat may build up.

6. In areas where excess moisture could cause hazards to safety or damage to equipment, means for dehumidification shall be provided.

7. Pump stations shall be adequately lighted throughout. All electrical work shall conform to the requirements of the applicable codes.

8. Stair design shall be in accordance with the USBC.

9. Pump stations shall have adequate space for the installation of additional units if needed and for the safe servicing of all equipment.

10. Pump stations shall be designed so that each pump has an individual suction line or the lines shall be so manifolded to ensure similar hydraulic and operational conditions.

B. Suction wells shall:

1. Be watertight;

2. Have floors sloped to allow removal of water and entrained solids;

3. Be covered or otherwise protected against contamination, including contamination by pump lubricants; and

4. Have two pumping compartments or other means to allow the suction well to be taken out of service for inspection, maintenance, or repair.

C. Groundwater well enclosures and aprons.

1. The floor at the well pump house shall meet the requirements of subdivision A 2 of this section.

2. Well pump aprons surrounding the well shall (i) be of quality reinforced concrete, (ii) extend a minimum of three feet in all directions from the well casing, (iii) be at least six inches thick, and (iv) be sloped 1/8 inch per foot away from the well.

3. Well houses or well pump stations in pits are prohibited.

D. Spring enclosures shall be vented by properly hooded and screened pipe extending at least 12 inches above the pump floor or ground surface.

12VAC5-590-1050. Booster pumps Pumps and controls.

A. General.

1. Pumps, pump motors, and all accessories shall be controlled in a manner that they will operate at their rated capacity. Where two or more pumps are installed, provision shall be made for proper alternation of the pumps. Alternation may be automatic or manual. Provision shall be made to prevent operation of the pump in the event of a backspin cycle.

2. All pumps shall be driven by motors designed to operate over the full range of operating conditions.

3. All pumps shall be served by control equipment that has overload protection for the air temperature encountered.

4. Electrical controls shall be protected to the 100-year flood elevation and should be located above grade.

5. If standby power is provided by onsite generators or engines, then the provisions for filling the fuel storage tank, the fuel tank itself, and the fuel line shall be designed to protect the waterworks and source water from contamination.

6. Pumps shall be lubricated with water of equal or better quality than the water being pumped or with food grade oil.

Water seals shall not be supplied with water of a lesser sanitary quality than that of the water being pumped. Where pumps are sealed with potable water and are pumping water of lesser sanitary quality, the seal shall:

- a. Have an air gap of at least two inches or two pipe diameters, whichever is greater, where a break-tank is provided; or
- b. Be provided with an approved RPZ assembly.

7. When automatic pre-lubrication of pump bearings is necessary and an auxiliary power supply is provided, the pre-lubrication line shall be provided with a valved bypass around the automatic control.

8. A suitable outlet for drainage from pump glands shall be provided without discharging onto the floor.

~~A. B. Booster pumps;~~

1. Booster pumps, except those connected to supply mains not containing service connections and except those taking suction directly from storage facilities, shall be located or controlled so that:

- ~~1. a. They will not produce negative gauge pressure in their suction line; and~~
- ~~2. b. The intake pressure shall be at least 20 psi when the pump is in normal operation;~~

~~3. 2. An automatic pressure cutoff or a pressure-regulating pressure-regulating valve shall be provided to prevent the suction line pressure from dropping to below 10 psi; and,~~

~~4. 3. Automatic or remote control devices shall have a sufficient range between the start and cutoff pressure, or another mechanism which that will prevent excessive cycling of the pumps.~~

~~B. In-line booster pumps. In addition to the other requirements of this section, in-line booster pumps shall be accessible for servicing and repairs.~~

4. At least two pumping units shall be provided.

- a. If only two units are provided, then each shall be capable of delivering the peak hour demand, taking into account storage contributions.
- b. If more than two units are installed, then they shall have sufficient capacity so that if any one pump is out of service, the remaining pumps are capable of meeting the peak hour demand, taking into account storage contributions.
- c. When using booster pumps to transfer water from atmospheric storage tanks to hydropneumatic tanks located upstream of an entry point into the distribution system, the combined capacity of the two pumps shall equal or exceed the peak hour demand. If fire flow is provided, then a pump separate from the transfer pumps shall be provided to deliver the required fire flow.

d. When booster pumping is required for small noncommunity systems, the reserve capacity requirements may be reduced in accordance with the type and size of system served.

5. Controls shall be provided to shut off pumps in the event that suction conditions may result in cavitation.

~~12VAC5-590-1060. Automatic and remote controlled stations. (Repealed.)~~

~~All automatic stations should be provided with an automatic signaling apparatus which will report to a facility manned 24 hours per day when the station is out of service. All remote controlled stations shall be electrically operated and controlled and shall have a signaling apparatus of proven performance. Installation of electrical equipment shall conform with the appropriate state codes.~~

12VAC5-590-1065. Piping, valves, and meters.

A. Piping shall:

- 1. Be adequately sized to minimize energy losses;
- 2. Not be subject to contamination;
- 3. Have watertight joints;
- 4. Be properly anchored to prevent movement;
- 5. Be protected against surge or water hammer;
- 6. Have proper labels to identify the contents of the pipes (12VAC5-590-720 C); and
- 7. Have all exposed piping, valves, and appurtenances protected against physical damage and freezing.

B. Pumps shall be adequately valved to allow satisfactory operation, maintenance, and repair.

- 1. If foot valves are necessary, then they shall have a net valve area of at least 2-1/2 times the area of the suction pipe and they shall be screened.
- 2. Each pump shall have shutoff valves on both suction and discharge sides of the pump.
- 3. Each pump shall have a positive-acting check valve on the discharge side between the pump and shutoff valve or suitable control features to prevent flow reversal.
- 4. Surge relief valves or slow-acting check valves shall be designed to minimize hydraulic transients.
- 5. Discharge control valves and appurtenances shall be located above the pump floor when an above-ground discharge is provided.
- 6. Pumps shall be equipped with an air release or vacuum relief valve located upstream from the check valve, with exhaust or relief piping terminating in a down-turned position at least 18 inches above the floor and covered with a corrosion-resistant screen.

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C. Gauges. Each pump shall have a standard pressure gauge on its discharge line capable of displaying the maximum allowable pressure of the pump and shall have a standard pressure gauge or a compound gauge when appropriate on its suction line.

D. Meters.

1. All booster pump stations located within the distribution system should be fitted with a flow rate indicating and totalizing meter with recording capabilities.

2. A totalizing water meter to measure water production shall be provided for each well and shall be located upstream of the well blowoff.

E. Additional requirements for well discharge piping.

1. Valves shall be provided to allow testing and control of each well.

2. A nonthreaded sampling tap shall be provided for water sampling that discharges in a downward direction and away from the well casing.

3. A standard pressure gauge shall be provided to indicate well discharge pressure. The gauge shall be capable of displaying pressure under all operating conditions.

4. Blowoff.

a. A separate means to pump (i.e., blowoff) water of unsatisfactory quality to a point away from the groundwater source shall be provided. Blowoff discharge shall not create a cross-connection.

b. Systems shall be equipped with a watertight cap or a screened discharge.

c. Erosion protection at the point of waste discharge shall be provided.

12VAC5-590-1070. Appurtenances. (Repealed.)

A. Valves.

~~Pumps shall be adequately valved to permit satisfactory operation, maintenance, and repair of the equipment. If foot valves are necessary, they shall have a net valve area of at least two and one half times the area of the suction pipe and they shall be screened. Each pump shall have a positive acting check valve on the discharge side between the pump and shutoff valve.~~

B. Piping, in general, shall:

1. Be designed so that the friction head will be low;
2. Not be subject to contamination;
3. Be sloped in one direction to drains;
4. Have adequate cleanouts;
5. Have watertight joints;

~~6. Be protected against surge or water hammer;~~

~~7. Be such that each pump has an individual suction line or the lines shall be so manifolded that they will insure similar hydraulic and operational conditions; and~~

~~8. Have proper legends to identify the contents of the pipes (see 12VAC5-590-720 L).~~

C. Gauges and meters.

~~The station should have indicating, totalizing, and recording metering of the total water pumped. Each pump shall:~~

- ~~1. Have a standard pressure gauge on its discharge line;~~
- ~~2. Have a compound gauge on its suction line; and~~
- ~~3. Have recording gauges in the larger stations as required by the division.~~

D. Water seals.

~~Water seals shall not be supplied with water of a lesser sanitary quality than that of the water being pumped. Where pumps are sealed with potable water and are pumping water of lesser sanitary quality, the seal shall:~~

- ~~1. Be provided with a break tank open to atmospheric pressure; and~~
- ~~2. Have an air gap between feeder line and spill line of the tank, at least two inches or two pipe diameters, whichever is greater.~~

E. Controls.

~~Pumps, their prime movers, and all accessories shall be controlled in such a manner that they will operate at their rated capacity without overloading. Where two or more pumps are installed, provision shall be made for proper alternation. Alternation may be automatic or manual. Provision shall be made to prevent operation of the pump during the backspin cycle. Electrical controls should be located above grade.~~

F. Power.

~~When power failure would result in cessation of the minimum essential service, the power supply shall be provided from at least two independent sources or an auxiliary source shall be provided.~~

G. Auxiliary power supply.

~~When automatic prelubrication of pump bearings is necessary and an auxiliary power supply is provided, the prelubrication line shall be provided with a valved by pass around the automatic control.~~

Article 5
Finished Water Storage Structures

12VAC5-590-1080. General Basic finished water storage structure design criteria.

~~A. The materials and designs used for finished water storage structures, including associated pipe and valves, shall provide stability and durability as well as protect the quality of the stored water. Steel structures shall follow the current available American Water Works Association standards concerning steel tanks, standpipes, reservoirs, and elevated tanks wherever they are applicable. Other materials of construction are acceptable when properly designed to meet the requirements of this section. Steel, concrete, composite, and plastic storage structures shall be designed, constructed, cleaned, disinfected, and tested in accordance with the following AWWA standards, where applicable: D100-11, [~~D103-09~~ D103-19], D107-16, [~~D108-10~~ D108-19], D110-13, [~~D115-06~~ D115-20], [~~D120-09~~ D120-19], D121-12, and [~~C652-11~~ C652-19].~~

~~B. Safety cages, rest platforms, roof-ladder handrails, and other safety devices shall be provided as required by VOSH laws and regulations.~~

~~A. C. Location of finished water storage structures facilities.~~

~~1. The bottom of ground-level ground-level reservoirs, storage tanks, and standpipes should be placed at the normal ground surface above finished grade to ensure positive drainage away from the structure.~~

~~2. Where the bottom must be below normal ground surface, it shall be placed above the groundwater table. Sewers, drains, standing water, and similar sources of contamination shall be kept at least 50 feet from the reservoir finished water storage structure. AWWA approved water pipe Pipe conforming to water distribution pipe standards of 12VAC5-590-1110, pressure tested in place without leakage, shall be used for gravity sewers at lesser separations.~~

~~3. The top of all storage facilities shall not be less than two feet above the normal ground surface and shall be above the 100-year flood level elevation. Clearwells Any clearwell constructed under filters may be excepted exempted from this requirement when the total design gives the same protection.~~

~~B. All new finished water storage structures shall have suitable watertight roofs or covers which exclude birds, animals, insects, and dust.~~

~~C. No drain on a water storage structure shall have a direct connection to a sewer or storm drain.~~

All finished water storage structures shall be equipped with separate drains discharging to the atmosphere. Drainage of finished water storage structures to the distribution system through inlet and outlet piping shall not be allowed.

~~D. The overflow pipe of a finished water storage structure shall be brought down near the ground surface where any discharge will be visible and into a drainage inlet structure or a splash plate which will divert the overflow away from the storage structure. No overflow may be connected directly to a sewer or storm drain.~~

~~1. When an internal overflow pipe is used it shall be located in the access tube.~~

~~2. The overflow of a ground level finished water storage structure shall be high enough above normal or graded ground surface to prevent the entrance of surface water.~~

~~3. All nonpressure type finished water storage structures shall be provided with a downward discharging screened overflow.~~

~~E. Finished water storage structures shall be designed with convenient access to the interior for cleaning and maintenance. Manholes or scuttles above the waterline shall be:~~

~~1. Framed at least four inches, preferably six inches, above the surface of the roof at the opening; on ground level structures, manholes should be elevated 24 to 36 inches above the top or covering sod;~~

~~2. Fitted with a solid watertight cover which overlaps the framed opening and extends vertically down around the frame at least two inches (shoebox type);~~

~~3. Hinged at one side; and~~

~~4. Fitted with a locking device.~~

~~F. Finished water storage structures shall be vented by separate vent structures. Open construction between the side wall and roof is not permissible.~~

~~1. Vents shall prevent the entrance of surface water.~~

~~2. Vents shall exclude birds and animals.~~

~~3. Vents shall exclude insects and dust, as much as this function can be compatible with effective venting, for elevated tanks and standpipes, four mesh noncorrodible screen may be used.~~

~~4. Vents on ground level structures shall terminate in an inverted U construction the opening of which is 24 to 36 inches above the roof or sod and is covered with noncorrodible screen cloth to exclude insects.~~

~~G. The roof and sidewalls of all structures must be watertight with no openings except properly constructed vents, manholes, overflows, risers, drains, pump mountings, control ports, or piping for inflow and outflow.~~

~~1. Any pipes running through the roof or sidewall of a finished water storage structure must be welded or properly gasketed in metal tanks or should be connected to standard wall castings which were poured in place during the forming~~

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of a concrete structure; these wall castings shall have flanges imbedded in the concrete.

2. Openings in a storage structure roof or top designed to accommodate control apparatus or pump columns shall be curbed and sleeved with proper additional shielding and shoebox type cover to prevent the access of surface water into the structure.

3. Valves and controls shall be located outside the storage structure so that valve stems and similar projections will not pass through the roof or top of the structure.

H. The roof or cover of the storage structure should be well drained, but downspout pipes shall not enter or pass through the reservoir.

I. The safety of employees shall be considered in the design of the storage structure. As a minimum, such matters shall conform to pertinent building codes, laws, and regulations of the area where the reservoir is constructed.

1. Ladders, ladder guards, balcony railings, and safe location of entrance hatches shall be provided.

2. Elevated tanks with riser pipes over eight inches in diameter shall have protective bars over the riser opening inside the tank.

J. All finished water storage structures and their appurtenances, especially the riser pipes, overflows, and vents, shall be designed to prevent freezing which will interfere with proper functioning.

K. Every catwalk over finished water in a storage structure shall have a solid floor with raised edges so designed that shoe scrapings and dirt will not fall into the water.

L. The area surrounding a ground level structure should be graded in a manner that will prevent surface water from standing within 50 feet of the structure.

M. Proper protection should be given to metal surfaces by paints or other protective coatings, by cathodic protective devices, or both. Paint systems consistent with the most current available American Water Works Association standards and otherwise acceptable to the division shall be used. Cathodic protection should be designed and installed by competent technical personnel.

N. All finished water storage facilities shall be cleaned to remove all dirt and loose materials prior to disinfection of the structure. Only potable water shall be used to clean and rinse the water storage facilities. All equipment including brooms, brushes, spray equipment and workmen's boots shall be disinfected before they are used to clean the storage facilities.

O. All finished water storage facilities shall be satisfactorily disinfected prior to being placed in operation. The disinfection of the storage facilities shall be repeated until it is determined,

by bacteriological testing, that the water is free of coliform bacteria.

1. One of the following disinfection methods shall be used. Other methods of disinfection may be approved on a case-by-case basis by the division.

a. The tank shall be filled to the overflow level with potable water to which enough chlorine has been added to produce an initial chlorine concentration of 50 mg/L in the full tank. The full tank should stand for 24 hours; however, in no case shall it stand less than six hours. At the end of the holding period, the chlorinated water shall be drained to waste, the tank refilled with potable water, and tested for satisfactory bacteriological quality before placing the tank in service.

b. All interior surfaces of the tank shall have applied a chlorine solution containing at least 200 mg/L of free available chlorine. The chlorine solution shall be applied with either spray equipment or brushes. Any equipment used to apply the chlorine solution shall either be new or previously used only for disinfection purposes. The chlorine solution shall remain in contact with the tank surfaces for at least 30 minutes. The tank shall then be filled with potable water to the overflow level and tested for satisfactory bacteriological quality before placing the tank in service; or

e. Potable water containing a free chlorine residual of 50 mg/L shall be placed in the tank to such a depth that when the tank is filled, the resulting chlorine concentration in the water will be at least two mg/L. The water containing 50 mg/L of chlorine shall stand in the tank for 24 hours. The tank shall then be filled with potable water and allowed to stand for 24 additional hours. At the end of the second 24-hour period, the chlorine residual shall be at least two mg/L. After analyses of the water for satisfactory bacteriological quality, the tank may be placed in service without draining the water used to disinfect it.

2. Testing of the water following disinfection shall be in accordance with 12VAC5-590-800-C.

D. Pressure variation. The maximum variation between normal operational high and low water levels in finished water storage structures which float on a distribution system shall not exceed 30 feet.

E. Level controls.

1. Adequate controls shall be provided to enable sufficient tank turnover, water quality maintenance, avoidance of overflows, and efficient operations.

2. A telemetry system with recording capability shall be considered to transmit the operating levels in distribution system storage facilities to a location where qualified personnel may access the data at all times.

3. Altitude valves or equivalent controls shall be provided.

4. For tanks with a monitoring system, warnings or alarms indicating overflow, low level, and pump malfunction shall be provided.

12VAC5-590-1081. Atmospheric tank storage.

A. Protection.

1. All finished water storage structures shall have suitable watertight roofs or covers that exclude birds, animals, and insects.

2. All finished water storage structures shall be designed to prevent vandalism and entrance by animals or unauthorized persons.

B. Finished water storage structures shall be designed to facilitate turnover of water. Consideration shall be given to locating inlet and outlet pipes at different elevations and locations, tank mixers, and other acceptable means to avoid stagnation. Excessive storage capacity shall be avoided to prevent water quality deterioration. See 12VAC5-590-640 B 3.

C. Drains.

1. No drain on a finished water storage structure shall create a cross-connection hazard.

2. All finished water storage structures shall be equipped with separate drains discharging to the atmosphere. Drainage of finished water storage structures to the distribution system through inlet and outlet piping is prohibited.

D. Overflows.

1. Finished water storage structures shall be provided with a downward-discharging, screened overflow pipe. The discharge pipe shall be brought down near the ground surface and into a drainage inlet structure or a splash plate that will divert the overflow away from the storage structure. The overflow pipe discharge shall be high enough above normal or graded ground surface to prevent the entrance of surface water.

2. Overflow pipe screens shall be installed so as to withstand the force of overflows. Properly designed flapper valves or rubber flex-type valves may be used instead of screens if approved by the [~~commissioner~~ department].

E. Inlet and discharge pipes.

1. Elevated tanks with riser pipes over eight inches in diameter shall have protective bars over the riser opening inside the tank.

2. Inlet and outlet pipes from water storage facilities shall be located in a manner that will prevent the flow of sediment into the distribution system.

F. Finished water storage structures shall be designed with convenient access to the interior for cleaning and maintenance. Ladders, ladder guards, balcony railings, and safely located

entrance hatches shall be provided where applicable. Hatches, manholes, or scuttles above the waterline shall be:

1. Framed at least four inches, preferably six inches, above the surface of the roof at the opening; on ground-level structures, manholes should be elevated 24 to 36 inches above finished grade;

2. Fitted with a solid watertight cover that overlaps the framed opening and extends vertically down around the frame at least two inches (shoebox type);

3. Hinged at one side; and

4. Fitted with a locking device.

G. Finished water storage structures shall be vented by separate vent structures. Open construction between the side wall and roof is prohibited.

1. Vents shall prevent the entrance of surface water.

2. Vents shall exclude birds, animals, and insects and be constructed of noncorrodible material. Screens shall be designed to be frost-free or capable of relieving pressure or vacuum in the event of frosting or clogging.

3. Vents on ground-level structures shall terminate in an inverted U construction, with the vent terminating 24 to 36 inches above roof or finished grade.

H. Penetrations. The roof and sidewalls of all structures shall be watertight with no openings except properly constructed vents, manholes, overflows, risers, drains, pump mountings, control ports, or piping for inflow and outflow.

1. All pipes running through the roof or sidewall of a finished water storage structure shall be welded or properly gasketed in metal tanks or should be connected to standard wall castings that were placed during the forming of a concrete structure; these wall castings shall have flanges imbedded in the concrete.

2. Valves and controls shall be located outside the finished water storage structure so that valve stems and similar projections will not pass through the roof or top of the structure.

3. Downspout pipes for roof drainage shall not enter or pass through the structure.

I. All finished water storage structures and their appurtenances, especially the riser pipes, overflows, and vents shall be designed to prevent freezing that will interfere with proper functioning.

J. Every catwalk over finished water in a storage structure shall have a solid floor with raised edges designed so that shoe scrapings and dirt will not fall into the water.

K. The area surrounding a ground-level structure shall be graded in a manner that will prevent surface water from standing within 50 feet of the structure.

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L. Proper protection shall be given to metal surfaces by paints or other protective coatings, by cathodic protective devices, or both, in accordance with the [~~NSF/ANSI Standard 61-2016~~ NSF/ANSI/CAN Standard 61-2020], AWWA Standards [~~D102-14~~ D102-17], [~~D104-11~~ D104-17], and [~~D106-16~~ D106-20], or an approved equivalent, where applicable.

M. All finished water storage facilities shall be cleaned to remove all dirt and loose materials before disinfection of the structure. Only potable water shall be used to clean and rinse the water storage facilities. All equipment including brooms, brushes, spray equipment, and worker's boots shall be disinfected before they are used to clean the storage facilities.

N. Disinfection. All finished water storage facilities shall be satisfactorily disinfected in accordance with AWWA Standard [~~C652-11~~ C652-19] before being placed in operation. The disinfection of the storage facilities shall be repeated until it is determined, by bacteriological testing, that the water is free of coliform bacteria.

12VAC5-590-1082. Pressure tank storage.

[~~A.~~] When hydropneumatic tanks are used, they shall comply with the requirements of state and local laws and regulations for the construction and installation of unfired pressure vessels.

[~~1.~~ B.] Pressure tanks shall be located above the normal ground surface with the operating end of the tank containing the inlet pipe, the pressure gauge, and other appurtenances projecting into a building with climate controls to prevent freezing. Alternatively, it may be completely housed, if adequate access is provided for inspection, removal, and replacement.

[~~2.~~ C.] Pressure tanks shall have bypass piping to permit operation of the system while the tank is being cleaned, repaired, or painted.

[~~3.~~ D.] Pressure tanks shall have an access manway, a drain, and control equipment consisting of a pressure gauge, water sight glass, automatic or manual air blowoff, pressure and vacuum relief valves, and mechanical means for adding air. Pressure tanks smaller than than 120 gallons and bladder tanks are not required to have an access manway, sight glass, or vacuum relief valve.

[~~4.~~ E.] Pressure tanks and pumps shall be designed to minimize pump cycling and to operate within manufacturer recommendations.

12VAC5-590-1090. Plant storage.

The applicable design standards of 12VAC5-590-1080 shall be followed for plant storage.

A. Washwater Backwash water storage tanks shall be sized in conjunction with available pump units and finished water storage to ~~give~~ provide the filter backwash water required. Consideration ~~must~~ shall be given to the possibility of having

to wash more than one filter at a time or several filters in succession.

B. Clearwell storage ~~should~~ shall be sized, in conjunction with distribution system storage, to relieve the filters from having to follow fluctuations in water use or meet peak demands, including filter backwash water. When finished water storage is used to provide proper contact time for ~~chlorine disinfection~~, special attention ~~must~~ shall be given to size, drawdown, and baffling. Plant clearwells shall be equipped with a raised viewing port having a clear glass or plastic viewing window and a submerged ~~waterproof~~, waterproofed electric light.

C. Finished water shall not be stored or conveyed in a compartment adjacent to ~~unsafe nonpotable~~ water when the two compartments are separated by a single wall.

D. Receiving basins and pump wet wells for finished water shall be designed as finished water storage structures.

~~E. Hydropneumatic (pressure) tanks may be acceptable in small water systems. When used, they shall comply with the requirements of state and local laws and regulations for the construction and installation of unfired pressure vessels.~~

~~1. The tank shall be located above the normal ground surface with the tank end containing the inlet pipe, the pressure gauge and other appurtenances projecting into an operating house to prevent freezing or be completely housed.~~

~~2. The tank shall have bypass piping to permit operation of the system while the tank is being cleaned, repaired, or painted.~~

~~3. Pressure or level pressure operated start stop controls shall be installed on the discharge piping to permit operation of the water supply system.~~

~~4. Each tank shall have an access manhole, a drain, and control equipment consisting of pressure gauge, water sight glass, automatic or manual air blowoff, pressure and vacuum relief valves and mechanical means for adding air. Appurtenances to small capacity tanks shall be determined by the division on a case by case basis.~~

~~5. Tanks and pumps shall be designed to minimize pump cycling and shall have at least the following capacity:~~

~~a. When the hydropneumatic tank is fed directly by a well or wells, the effective storage volume is one-third of the hydropneumatic tank's gross volume;~~

~~b. When the hydropneumatic tank is fed directly from ground storage, the effective storage volume is the effective volume of the ground storage tank plus the effective volume of the hydropneumatic tank; and~~

~~c. At least two booster or transfer pumps are required which have a combined capacity to meet the requirements of 12VAC5-590-690 C.~~

12VAC5-590-1100. Distribution storage. (Repealed.)

The applicable design standards of 12VAC5-590-1080 shall be followed for distribution storage.

A. The maximum variation between high and low water levels in finished water storage structures which float on a distribution system should not exceed 30 feet. Large diameter, shallow depth reservoirs are preferable over small diameter, deep depth reservoirs.

B. Adequate controls shall be provided to maintain levels in distribution system storage structures at all times.

C. Pressure tanks. (Also see 12VAC5-590-1090 E.)

1. A telemetering system and recording equipment should be provided, to a location where qualified personnel are available at all times, for the transmission and recording of storage levels in the distribution system.

2. Altitude valves or equivalent controls may be required for subsequent structures on the system.

3. Overflow, low level, and pump malfunction warnings or alarms should be transmitted to a location where qualified personnel are available for surveillance on a 24-hour basis.

Article 6

Water Distribution Systems

12VAC5-590-1110. Materials Distribution system materials.

A. The pipe selected shall have been manufactured in conformity with the current available standards issued by the American Water Works Association if such standards exist or be approved by the National Sanitation Foundation for water distribution piping.

B. In the absence of such standards, pipe meeting applicable commercial standards and acceptable to the division may be considered.

C. Used water mains that meet these standards may be used again after the pipe has been thoroughly cleaned and restored.

D. Packing and joint materials used in the joints of pipe shall meet the standards of the American Water Works Association or the National Sanitation Foundation.

E. Mechanical joints or slip joints with resilient gaskets are preferred.

Pipe, fittings, joints, valves, hydrants, and coatings shall conform to AWWA standards.

12VAC5-590-1120. Minimum pipe size.

A. The minimum size pipe for water distribution systems mains shall be four inches in diameter. Pipes of lesser diameter may be used in the following instances:

1. When the run is less than 300 feet, two-inch diameter pipe may be used; and,

2. When the run is less than 600 feet but more than 300 feet, three-inch diameter pipe may be used.

3. Any departure in sizing shall be justified by hydraulic analysis and future water demands.

B. The minimum size of pipe where fire protection is to be provided or required shall be six inches in diameter. Fire hydrants shall not be connected to water mains that are not designed to carry fire flows. Connection of a fire hydrant to a pipe of less than six inches in diameter is prohibited.

C. The standard grading schedule of the Insurance Services Office and other related organizations shall be followed in other cases.

D. Any departure in sizing shall be justified by hydraulic analysis and future water use and can be considered only in special circumstances.

E. Water mains not sized to carry fire flows shall not be connected to fire hydrants. C. Where a noncommunity waterworks serves a single building, the plumbing shall be in accordance with the USBC. Where a noncommunity waterworks serves two or more buildings, the pipe shall be of sufficient size to provide adequate flow and pressure in order to meet the system demands.

12VAC5-590-1130. System Distribution system design.

A. Dead-ends should be minimized by the looping of all water mains.

B. Where dead-end lines water mains occur, they shall be provided with a fire hydrant, flushing hydrant, or blowoff for flushing purposes a means of effective flushing shall be provided.

C. No flushing device shall be directly connected to any sewer.

12VAC5-590-1140. Installation and testing of water mains.

A. Adequate supports and restraints shall be provided for all pipes.

B. A continuous and uniform bedding shall be provided in the trench for all buried pipe.

C. Stones and rocks found in the trench shall be removed for to a depth of at least six inches below the bottom of the pipe and selected fill bedding provided.

D. The specifications for installation shall include:

1. Pressure testing on installed pipe;

2. Allowable leakage of installed pipe; and

3. Reference to applicable American Water Works Association standards or manufacturers' recommended

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~~installation procedures~~ D. Installed pipe shall be pressure-tested and meet allowable leakage as specified in accordance with AWWA Standards [~~C600-10 C600-17~~], [~~C604-11 C604-17~~], and C605-13, where applicable.

E. Any plastic or other nonmetallic pressurized ~~conduit pipe~~ installed underground shall ~~have affixed thereto~~ be provided with a material conductive of electricity or some other means of locating the ~~conduit while it is underground~~ buried pipe.

12VAC5-590-1150. Separation of water mains and sanitary sewers.

A. The following factors shall be considered in providing adequate separation of water mains and sanitary sewers:

1. Materials and types of joints for water and sanitary sewer mains;
2. Soil conditions;
3. Service branch connections into the water main and sanitary sewer mains;
4. Compensating variations in the horizontal and vertical separations;
5. Space for repairs and alterations of water and sanitary sewer mains;
6. Offsetting of pipes around manholes; and
7. Identification of the physical restraints preventing normal separation.

B. Parallel installation of water mains and sanitary sewers.

1. Under normal conditions, water mains shall be laid at least 10 feet horizontally from a sanitary sewer or sewer manhole. The distance shall be measured edge-to-edge.
2. Under unusual conditions situations when local conditions prevent a horizontal separation of 10 feet, the water main may be laid closer to a sanitary sewer or sewer manhole provided that:

- a. The bottom (invert) of the water main shall be at least 18 inches above the top (crown) of the sanitary sewer;
- b. Where this vertical separation cannot be obtained, the sanitary sewer shall be constructed of ~~AWWA approved water pipe~~ water distribution pipe and pressure tested in place without leakage prior to backfilling; and in accordance with 12VAC5-590-1110 and 12VAC5-590-1140;
- c. ~~The [commissioner department] may approve concrete encasement of the water main or other physical barrier;~~
- d. The sewer manhole shall be of watertight construction and tested in place; and
- e. No water pipes shall pass through or come into contact with any part of a sewer manhole.

C. Crossing of water mains and sanitary sewers.

1. Under normal conditions, water ~~lines~~ mains crossing sanitary sewers shall be laid to provide a separation of at least 18 inches between the bottom of the water ~~line~~ main and the top of the sanitary sewer whenever possible.

2. Under unusual conditions situations when local conditions prevent a vertical separation described in subdivision C 1 of this section, the following construction shall be used:

- a. ~~Sewers~~ Sanitary sewers passing over or under water mains shall be constructed of the materials described in ~~subdivision B-2 b~~ subsection B of this section and shall be constructed to a point 10 feet beyond and on each side of the crossing; and
- b. Water ~~lines~~ mains passing under sanitary sewers shall, in addition, be protected by providing:
 - (1) A vertical separation of at least 18 inches between the bottom of the sanitary sewer and the top of the water ~~line~~ main;
 - (2) Adequate structural support for the sanitary sewers to prevent excessive deflection of the joints and the settling on and breaking of the ~~waterline~~ water main; and
 - (3) That the length of the water ~~line~~ main be centered at the point of the crossing so that joints shall be equidistant and as far as possible from the sanitary sewer.

~~D. No water pipes shall pass through or come in contact with any part of a sewer manhole. The minimum horizontal separation distance between water mains and septic tanks and drainfields, measured edge-to-edge, shall be 10 feet. Greater separation distances shall be provided wherever practical.~~

E. Water mains shall be located a safe horizontal distance from sources of contamination not already mentioned in this section, such as sewage treatment works and industrial complexes. The owner's engineer shall contact the department to determine the safe separation distances.

12VAC5-590-1160. Valve, air relief, meter, and blowoff chambers.

~~A. Air and sediment accumulations may be removed through a standard fire hydrant; compressed air and pumping may be used for dewatering mains through hydrants. Standard fire hydrants or blowoffs shall be considered to enable removal of sediment and air accumulations.~~

B. ~~Chambers~~ Drains in chambers or pits containing that contain valves, blowoffs, meters, or other such appurtenances to a distribution system shall not be connected directly to any storm drain or sanitary sewer, nor shall blowoffs or air relief valves be connected directly to any sanitary sewer.

C. ~~Such chambers~~ Chambers or pits shall be drained to the surface of the ground where they are not subject to flooding by surface water or to absorption pits located above the seasonal groundwater table elevation. The backfill material for the water main may serve as an absorption pit if granular embedment material is laid from the pipe bedding up through the final

backfill layer for the entire length of pipe in the chamber. Sump pumps may be used where other means are not practicable.

D. Chambers or pits shall be designed to facilitate air-valve inspection and servicing.

E. Air relief and blowoff piping.

~~D. 1.~~ 1. The open end of an air relief pipe shall be extended from the manhole or enclosing chamber to a point at least one foot above ground and provided with a screened, downward facing elbow. The exposed pipe and appurtenances shall be protected from vandalism and other damage.

2. When an aboveground extension is not practical or desired, the open end of the air relief pipe or blowoff shall be extended.

a. Where the pit or chamber is provided with proper drainage and is not otherwise subject to high groundwater levels, surface flooding, ponding, and contaminant or pollutant spills, the open end may be provided with a screened, downward facing elbow. The valve chamber or pit shall be vented to provide sufficient air flow to allow proper operation of the air valve. Air valves fitted with a smooth vent port and screened hood are allowable under these conditions.

b. Where the pit or chamber is not properly drained or is otherwise subject to high groundwater levels, surface flooding, ponding, and contaminant or pollutant spills, a manually operated valve or blowoff shall be used and the open end shall be fitted with a watertight cap or other means to prevent contamination from entering the pipe and valve.

c. The installation and testing specifications shall require field verification by the owner's engineer of the groundwater elevation and surface water drainage ~~[prior to,~~ as needed in circumstances or situations where this is of potential concern, before] placement of the pit or chamber.

12VAC5-590-1170. Hydrants.

~~A. [Where hydrant drains are not plugged, they shall be drained to the ground surface or to dry wells provided exclusively for this purpose in a manner that will avoid contamination of the hydrant or water main from high groundwater, surface flooding and ponding, and contaminant or pollutant spills~~ Fire hydrants.

1. To avoid cross-connection and contamination, dry barrel fire hydrants:

a. Should be located in areas that are not subject to high groundwater, flooding, surface water ponding, and contaminant or pollutant spills. When this is not practical, consideration shall be given to:

(1) Piping the drain port to daylight with screening on the end of the pipe; or

(2) Plugging the drain port and marking the hydrant for seasonal dewatering.

b. Shall comply with the ANSI/AWWA C502-18 standard, to include drain ports that are physically isolated from the drinking water system by the hydrant stem valve; and

c. Shall be drained to the ground surface or to a dry well provided exclusively for this purpose. Fire hydrant drains shall not be connected to sanitary sewers or storm drains.]

~~[B. Hydrant drains shall not be connected to sanitary sewers or storm drains.~~

~~C. 2.]~~ Fire hydrants shall be connected only to water systems mains adequately designed for fire flows in addition to domestic flow in accordance with the requirements of 12VAC5-590-1120 B.

[B. Yard hydrants.

1. Shall have a hose connection vacuum breaker, meeting ASSE 1011-2017 or ASSE 1052-2016, if the hydrant has hose threads and is not already protected with an integral vacuum breaker.

2. To avoid cross-connection and contamination, yard hydrants installed in areas subject to high groundwater, flooding, contaminant, or pollutant spills or in areas where surface water ponds shall:

a. Meet ASSE 1057-2012, Performance Requirements for Freeze Resistant Sanitary Yard Hydrants with Backflow Protection; or

b. Have hydrant drain ports that are piped to daylight with screening on the end of the pipe; or

c. Be contained from the rest of the distribution system by a backflow prevention assembly suitable for a high hazard.

3. Frost-proof yard hydrants with weep holes draining below grade are allowed provided they are not installed in areas subject to high groundwater, to flooding, or to contaminant or pollutant spills or in areas where surface water ponds.

C. Hydrants and flushing devices not designed for fire protection may be connected to pipe of less than six inches in diameter, consistent with 12VAC5-590-1120 A.]

12VAC5-590-1180. Surface water crossings.

A. Surface water crossings, both over and under water, present special ~~problems and should~~ challenges and shall be discussed with the ~~division~~ department before final plans project documents are prepared.

~~A. Above~~ B. Aerial water crossings. The pipe above water crossings shall be:

1. Adequately supported;

2. Protected from freeze damage;

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3. Accessible for repair or replacement; and
4. Above the 100-year flood level elevation.

~~B. C. Under water crossings.~~

- ~~1. The pipe shall be of special construction, suitable to the method of installation and having flexible watertight joints.~~
- ~~2. Valves Where rigid pipe is used, valves and taps shall be provided at both ends of the water crossing so that the section can be isolated for tests or repair; the valves and taps shall be easily accessible and not subject to flooding.~~
- ~~3. Sample taps shall be available at each end of the crossing and at a reasonable distance from each side of the crossing and not subject to flooding.~~
- ~~4. Permanent taps shall be made for testing and locating leaks.~~

~~12VAC5-590-1190. Water services and plumbing. (Repealed.)~~

~~Water services and plumbing shall conform to the Uniform Statewide Building Code.~~

~~12VAC5-590-1200. Water pressure in systems. (Repealed.)~~

~~The system shall be designed to maintain a minimum pressure of 20 psi in the distribution system at the design flow (see 12VAC5-590-690 C). Where the pressure at the service tap exceeds 80 psi, the provisions of the Uniform Statewide Building Code shall apply.~~

~~12VAC5-590-1210. Disinfection and testing of water mains.~~

~~A. All water mains shall be disinfected prior to in accordance with AWWA Standard C651-14 before being placed in operation. The disinfection of the mains shall be repeated until it is determined by bacteriological testing that the water is free of coliform bacteria.~~

~~B. Prior to disinfection all water mains shall be flushed unless the tablet method of disinfection is used. All valves and hydrants shall be operated during this operation. Flushing velocities should not be less than 2.5 feet per second.~~

~~C. Methods of chlorine application:~~

- ~~1. Continuous feed method Potable water shall be introduced into the pipe main at a constant flow rate. Chlorine shall be added at a constant rate to this flow so that the chlorine concentration in the water in the pipe is at least 50 mg/L. The chlorinated water shall remain in the main at least 24 hours, after which, the chlorine concentration in the water shall be at least 10 mg/L. All valves and appurtenances shall be operated while the chlorinated water remains in the main;~~
- ~~2. Slug method Potable water shall be introduced into the main at a constant flow rate. This water shall receive a chlorine dosage which will result in a chlorine concentration~~

~~of 100 mg/L in a "slug" of the water. The chlorine shall be added long enough to insure that all portions of the main are exposed to the 100 mg/L chlorine solution for at least three hours. The chlorine residual shall be checked at regular intervals not to exceed 2,000 feet to insure that adequate residual is maintained. As the chlorinated water passes valves and appurtenances, they shall be operated to insure disinfection of these appurtenances; or~~

~~3. Tablet method Tablets shall be placed in each section and in all appurtenances. Enough tablets shall be used to insure that a chlorine concentration of 25 mg/L is provided in the water. They shall be attached by an adhesive to the top of the pipe sections and crushed or rubbed in all appurtenances. The adhesive shall be acceptable to the division. The velocity of the potable water in the main shall be less than 1 foot per second. The water shall then remain in contact with the pipe for 24 hours. All valves and appurtenances shall be operated while the chlorinated water is in the main.~~

~~This method shall not be used if nonpotable water or foreign materials have entered the mains or if the water temperature is below 5°C (41°F).~~

~~D. Final flushing. After the required retention period, the chlorinated water shall be flushed from the main using potable water.~~

~~E. Testing. After the mains have been flushed, the water mains shall be tested in accordance with 12VAC5-590-800 C. Samples shall be collected at regular intervals, not exceeding 2,000 feet, throughout the length of main.~~

~~F. Repairs. Cleaning, disinfecting, flushing, testing, or similar operational actions shall be in accordance with the current standard issued by AWWA (AWWA C-601). B. Project documents shall provide the details of the procedure and include the disinfectant application technique, dosage, contact time, method of testing the results of the procedure, and use or disposal of the disinfecting water.~~

~~12VAC5-590-1220. Cover Pipe cover.~~

~~All distribution mains buried distribution pipe shall be provided with sufficient earth or other suitable cover or encasement to prevent from freezing and provide protection from damage by external forces.~~

~~12VAC5-590-1230. Metering. Service connection metering.~~

~~Each service connection should A. All new service connections in community waterworks shall be metered.~~

~~B. Water pipe and appurtenances between the water main and the service connection shall conform to all applicable codes.~~

12VAC5-590-1235. Water loading stations.

A. The station and its piping and valving arrangement shall be designed to prevent unauthorized use, tampering, and vandalism.

B. An air gap or RPZ assembly shall be provided on the potable water fill connection to prevent backflow into the waterworks.

C. The piping and valving arrangement shall prevent contaminants from being transferred from a hauling tank or vessel to others subsequently using the water loading station.

D. Hoses used to fill potable water tanks and vessels shall be approved for potable water contact.

E. Hoses shall not come into contact with the ground or other contaminated surface and shall otherwise be handled, maintained, and stored in a manner to prevent contamination.

12VAC5-590-1240. General. (Repealed.)

~~Part IV. Exceptions for Noncommunity Waterworks to Specific Sections of the Manual of Practice (Part III)~~

~~Noncommunity waterworks design shall conform to Part III of this chapter. Due to the types of service provided and size of some noncommunity waterworks, certain exceptions to the design requirement specified in Part III may be allowed. Each of the following subsections will refer to exceptions in corresponding sections of Part III.~~

12VAC5-590-1250. Exceptions to Article 1 of Part III. (Repealed.)

~~A. The evaluation of source requirements shall consider the type and use of the noncommunity system. Minimum storage for noncommunity waterworks, in conjunction with the source, must provide system peak hour demand.~~

~~B. A minimum laboratory facility of a sink and workbench shall be provided.~~

12VAC5-590-1260. Exceptions to Article 2 of Part III. (Repealed.)

~~A. Exceptions to the minimum size well lot may be made for noncommunity waterworks, based upon site availability and other factors.~~

~~B. When the source requirements for a noncommunity system are determined to be three gallons per minute or less the 48-hour minimum drawdown test may be reduced to no less than eight hours. The drawdown test, approved by the division and based upon system demands and geological conditions, shall be performed to determine well yield.~~

12VAC5-590-1270. Exceptions to Article 5 of Part III. (Repealed.)

~~When booster pumping is required for small noncommunity systems, the duplicity and capacity requirements may be reduced in accordance with the type and size of system served.~~

12VAC5-590-1280. Exceptions to Article 6 of Part III. (Repealed.)

~~In the instance where a noncommunity water system serves a single building, the water line plumbing (including size) shall be in accordance with the most recent edition of the Uniform Statewide Building Code.~~

~~When a noncommunity water system serves two or more buildings, the water line shall be of sufficient size to provide adequate flow and pressure in order to meet the system demands.~~

EDITOR'S NOTE: Text stricken in Appendices A through E, G, I, and L through P in the proposed regulation has not been further amended, therefore it is not published. See proposed stricken text at [36:6 VA.R. 475-845 November 11, 2019](#).

NOTICE: The following forms used in administering the regulation have been filed by the agency. Amended or added forms are reflected in the listing and are published following the listing. Online users of this issue of the Virginia Register of Regulations may also click on the name to access a form. The forms are also available from the agency contact or may be viewed at the Office of Registrar of Regulations, 900 East Main Street, 11th Floor, Richmond, Virginia 23219.

FORMS (12VAC5-590)

[Uniform Water Well Completion Report, Form GW-2 \(rev. 7/2016 & 8/2016\)](#)

[Waterworks Level 1 Assessment, Form ODW-4 \(eff. 4/2016\)](#)

[Waterworks Level 2 Assessment, Form ODW-5 \(eff. 4/2016\)](#)

[Application for Monitoring Waivers \(rev. 3/2019\)](#)

[Waterworks Permit Application, ODW-001 \(filed 10/2019\)](#)

[Operational Evaluation Reporting Form \(filed 10/2019\)](#)

[Waterworks Level 1 Assessment \(rev. 9/2017\)](#)

[Waterworks Level 2 Assessment \(rev. 9/2017\)](#)

[Well Yield and Recovery Report Form, ODW-002 \(filed 10/2020\)](#)

DOCUMENTS INCORPORATED BY REFERENCE (12VAC5-590)

~~"Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure," National Bureau of Standards Handbook 69.~~

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~~Standard Methods for the Examination of Water and Wastewater, 18th edition, American Public Health Association, American Waterworks Association, and Water Pollution Control Federation, 1992.~~

~~ANSI/NSF Standard for Drinking Water Treatment System Components, ANSI/NSF 61, American National Standard Institute, November, 1994.~~

~~AWWA Standard for American National Standard for Cement Mortar Lining for Ductile Iron Pipe and Fittings for Water, C 104, American Waterworks Association.~~

~~AWWA Standard for American National Standard for Polyethylene Encasement for Ductile Iron Pipe and Fittings for Water, C 105, American Waterworks Association.~~

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~~AWWA Standard for American National Standard for Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings, C 111, American Waterworks Association.~~

~~AWWA Standard for American National Standard for Flanged Ductile Iron Pipe with Threaded Flanges, C 115, American Waterworks Association.~~

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~~AWWA Standards for Tape Coating Systems for the Exterior of Steel Water Pipelines, C 214, American Waterworks Association.~~

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~~AWWA Standard for Cross-Linked Polyolefin Coatings for the Exterior of Special Sections, Connections, and Fittings for Buried Steel Water Pipelines, C 216, American Waterworks Association.~~

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~~AWWA Standard for Coating the Exterior of Aboveground Steel Water Pipelines and Fittings, C 218, American Waterworks Association.~~

~~AWWA Standard for Bolted, Sleeve Type Couplings for Plain-End Pipe, C 219, American Waterworks Association.~~

~~AWWA Standard for Stainless Steel Pipe, 4 Inch and Larger, C 220, American Waterworks Association.~~

~~AWWA Standard for Reinforced Concrete Pressure Pipe, Steel Cylinder Type, for Water and Other Liquids, C 300, American Waterworks Association.~~

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~~AWWA Standard for Polyethylene Pressure Pipe and Fittings, 4 Inch Through 63 Inch, for Water Distribution, C 906, American Waterworks Association.~~

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Drinking Water System Components - Health Effects (eff. 2020)

Water Wells (eff. 7/1/2020)

Disinfection of Water-Storage Facilities (eff. 4/1/2020)

Disinfection of Water Treatment Plants (eff. 9/1/2020)

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Sacrificial Anode Cathodic Protection Systems for the Interior Submerged Surfaces of Steel Water Storage Tanks (eff. 8/1/2020)

Aluminum Dome Roofs for Water Storage Facilities (eff. 11/1/2019)

Thermosetting Fiberglass-Reinforced Plastic Tanks (eff. 10/1/2019)

VA.R. Doc. No. R18-5204; Filed April 28, 2021, 12:36 p.m.



TITLE 13. HOUSING

BOARD OF HOUSING AND COMMUNITY
DEVELOPMENT

Final Regulation

REGISTRAR'S NOTICE: The Board of Housing and Community Development is claiming an exemption from Article 2 of the Administrative Process Act pursuant to § 2.2-4006 A 12 of the Code of Virginia, which excludes regulations adopted by the Board of Housing and Community Development pursuant to the Statewide Fire Prevention Code (§ 27-94 et seq.), the Industrialized Building Safety Law (§ 36-70 et seq.), the Uniform Statewide Building Code (§ 36-97 et seq.), and § 36-98.3 of the Code of Virginia, provided the board (i) provides a Notice of Intended Regulatory Action in conformance with the provisions of § 2.2-4007.01, (ii) publishes the proposed regulation and provides an opportunity for oral and written comments as provided in § 2.2-4007.03, and (iii) conducts at least one public hearing as provided in §§ 2.2-4009 and 36-100 prior to the publishing of the proposed regulations. The Board of Housing and Community Development will receive, consider, and respond to petitions by any interested person at any time with respect to reconsideration or revision.

Title of Regulation: 13VAC5-51. Virginia Statewide Fire Prevention Code (amending 13VAC5-51-138.4; adding 13VAC5-51-138.1).

Statutory Authority: § 27-97 of the Code of Virginia.

Effective Date: July 1, 2021.

Agency Contact: Kyle Flanders, Senior Policy Analyst, Department of Housing and Community Development, Main Street Centre, 600 East Main Street, Suite 300, Richmond, VA 23219, telephone (804) 786-6761, FAX (804) 371-7090, TDD (804) 371-7089, or email kyle.flanders@dhcd.virginia.gov.

Background: The Statewide Fire Prevention Code (SFPC) is a regulation governing the maintenance of the fire protection aspects of existing structures and operational functions relating to fire safety wherever located, including the regulation of the use of explosives and blasting and fireworks displays. The SFPC uses a nationally recognized model code produced by the International Code Council as the basis for the technical provisions of the regulation. Every three years, a new edition of the model code becomes available. At that time, the Board of Housing and Community Development initiates a regulatory action to incorporate the newest edition of the model code into the regulation as well as accepting proposals for changes to the regulation from affected stakeholder groups and the public.

This final regulatory action addresses two sections that were omitted from the board's final approval package in December 2020. The sections are 13VAC5-51-138.1, Energy systems, and 12VAC5-51-138.4, Aviation facilities. All other sections of the Statewide Fire Prevention Code also will become

effective July 1, 2021, as previously published here: [37:14 VA.R. 1718-1880 March 1, 2021](#).

Summary:

The amendments in this action (i) in 13VAC5-51-138.1 (International Fire Code Chapter 12: Energy Systems) update scoping and operation and maintenance requirements and remove construction requirements for energy systems used for generating or storing energy not associated with the generation, control, transformation, transmission, or distribution of energy installations controlled by an electric utility and (ii) in 13VAC5-51-138.4 (International Fire Code Chapter 20: Aviation facilities) update foam protection for rooftop heliports requirements, clarify that all helistops, heliports, and all standpipe systems providing service to helistops and heliports shall be maintained in accordance with the applicable building code, and add a reference to Chapter 10 for the maintenance of exits and stairways.

13VAC5-51-138.1 IFC Chapter 12 Energy Systems.**A. Make the following changes to Section 1201, General.****1. Change Sections 1201.1 and 1201.2 to read:**

1201.1 Scope. The provisions of this chapter shall apply to the operation and maintenance of energy systems used for generating or storing energy. [It shall not apply to equipment associated with the generation, control, transformation, transmission, or distribution of energy installations that is under the exclusive control of an electric utility or lawfully designated agency.]

1201.2 Electrical wiring and equipment. Electrical wiring and equipment used in connection with energy systems shall be maintained in accordance with [Chapter 12, NFPA 70, and] the applicable building code.

2. Delete Section 1201.3.**B. Make the following changes to Section 1203, Emergency and Standby Power Systems.****1. Change Sections 1203.1 and 1203.1.1 to read:**

1203.1 General. Emergency power systems and standby power systems shall [~~be maintained in accordance with the applicable building code~~ comply with Sections 1203.1.1 through 1203.1.9].

1203.1.1 Generators. Emergency and standby power generators shall be listed.

2. [~~Delete Change~~] Sections 1203.1.2 and 1203.1.3 [~~;~~ to read:

1203.1.2 Fuel line piping protection. Fuel lines supplying a generator set inside a high-rise building shall be maintained in accordance with the applicable building code. Fire resistance ratings shall be maintained in accordance with Chapter 7.

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1203.1.3 Installation. Emergency power systems and standby power systems shall be approved in accordance with the applicable building code.]

3. Change Section 1203.1.4 to read:

1203.1.4 Load transfer. Emergency power systems shall automatically provide secondary power within 10 seconds after primary power is lost unless specified otherwise by the applicable building code. Standby power systems shall automatically provide secondary power within 60 seconds after primary power is lost unless specified otherwise by the applicable building code.

4. Change Section 1203.1.5 to read:

1203.1.5 Load duration. Emergency power systems and standby power systems shall [~~require power for a minimum duration of hours without being refueled or recharged, unless otherwise specified by the applicable building code~~ be maintained to provide the required power for the minimum duration specified in the applicable building code without being refueled or recharged].

5. Change Section 1203.1.6 to read:

1203.1.6 Uninterruptable power source. An uninterrupted source of power shall be provided for equipment where required by the manufacturer's instructions, the listing, the applicable building code, or the applicable referenced standards.

6. Change Section 1203.1.7 to read:

1203.1.7 Interchangeability. Emergency power systems shall be an acceptable alternative for installations that require standby power systems when permitted by the applicable building code.

7. Delete Section 1203.1.8.

8. Change Section 1203.1.9 to read:

1203.1.9 Maintenance. Existing installations shall be maintained in accordance with the original approval and Section 1203.4.

9. Change Section 1203.2 to read:

1203.2 Specific equipment requirements. Emergency and standby power systems shall be maintained in accordance with Sections 1203.2.1 through 1203.2.18.

10. Change Section 1203.2.2 to read:

1203.2.2 Elevators and platform lifts. Standby power shall be maintained [~~in accordance with NFPA 72~~] for elevators and platform lifts [as] required [~~by the applicable building code~~ in Sections 606.2, 1009.4.1, and 1009.5].

11. [~~Delete Change~~] Section 1203.2.3 [∅ to read:

1203.2.3 Emergency responder radio coverage systems. Standby power shall be maintained for emergency responder radio coverage systems in accordance with

Section 510 and the applicable building code. Where specified in the applicable building code, the standby power supply shall be capable of operating the emergency responder radio coverage system at 100% system operation capacity for the duration specified in the applicable building code.]

12. Change Section 1203.2.4 to read:

1203.2.4 Emergency voice or alarm communication systems. Emergency power shall be maintained for emergency voice or alarm communication systems as required by the applicable building code. The system shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72.

13. Change Section 1203.2.5 to read:

1203.2.5 Exit signs. Emergency power for exit signs shall be capable of powering the required load for a duration of not less than 90 minutes unless otherwise specified by the applicable building code.

14. Change Section 1203.2.6 to read:

1203.2.6 Gas detection systems. Emergency power and standby power shall be maintained for gas detection systems in accordance with the applicable building code.

15. Change Section 1203.2.7 to read:

1203.2.7 Group I-2 occupancies. Essential electrical systems [~~for Group I-2 occupancies shall be maintained in accordance with NFPA 70 when~~] required by the applicable building code [for Group I-2 occupancies shall be maintained in accordance with NFPA 70].

16. Change Section 1203.2.8 to read:

1203.2.8 Group I-3 occupancies. [~~Power-operated~~ Where power-operated] sliding doors or power-operated locks for swinging doors in Group I-3 occupancies [~~shall be are~~] operable by a manual release mechanism at the door, and emergency power provided [~~for the doors and locks shall be maintained where or~~] required by the applicable building code [, they shall be maintained].

17. Change Section 1203.2.9 to read:

1203.2.9 Hazardous materials. Emergency and standby power shall be maintained in accordance with NFPA 70 in occupancies with hazardous materials when required by the applicable building code.

18. [~~Delete Change~~] Section 1203.2.10 [∅ to read:

1203.2.10 High-rise buildings. Standby power and emergency power shall be maintained for high-rise buildings in accordance with Section 1203 and the applicable building code.]

19. Change Section 1203.2.11 to read:

1203.2.11 Horizontal sliding doors. Standby power shall be maintained in accordance with NFPA 70 for horizontal

sliding doors as required by the applicable building code. The standby power supply shall have a capacity to operate not fewer than 50 closing cycles of the door unless otherwise specified by the applicable building code.

20. Change Section 1203.2.12 to read:

1203.2.12 Hydrogen fuel gas rooms. Standby power shall be maintained in accordance with NFPA 70 for hydrogen fuel gas rooms as required by the applicable building code.

21. Change Section 1203.2.13 to read:

1203.2.13 Laboratory suites. Standby or emergency power [~~for laboratory suites~~] shall be maintained [for laboratory suites] in accordance with [Section 1203 and] the applicable building code.

22. Change Section 1203.2.14 to read:

1203.2.14 Means of egress illumination. Emergency power shall be maintained for means of egress illumination in accordance with the applicable building code.

23. Change Section 1203.2.15 to read:

1203.2.15 Membrane structures. Standby power shall be maintained for auxiliary inflation systems in permanent membrane structures in accordance with applicable building code. Auxiliary inflation systems shall be provided in temporary air-supported and air-inflated membrane structures in accordance with Section 3103.10.4.

24. Change Section 1203.2.16 to read:

1203.2.16 Semiconductor fabrication facilities. Emergency power shall be maintained in accordance with NFPA 70 for semiconductor fabrication facilities as required by the applicable building code.

25. Change Section 1203.2.17 to read:

1203.2.17 Smoke control systems. Standby power shall be maintained in accordance with NFPA 70 for smoke control as required by the applicable building code.

26. Change Section 1203.2.18 to read:

1203.2.18 Underground buildings. Emergency and standby power shall be maintained in accordance with NFPA 70 in underground buildings as required by the applicable building code.

27. Change Section 1203.3 to read:

1203.3 Critical circuits. Cables used for survivability of required critical circuits shall be listed. Electrical circuit protective systems shall be maintained in accordance with their listing requirements.

28. Change Section 1203.4 to read:

1203.4 Maintenance. Emergency and standby power systems shall be maintained in accordance with NFPA 70,

NFPA 110, and NFPA 111 so that the system is capable of supplying service within the time specified for the type and duration required in accordance with the applicable building code.

29. Change Section 1203.5 to read:

1203.5 Operational inspection and testing. Emergency power systems, including all appurtenant components, shall be inspected and tested under load in accordance with NFPA 110, NFPA 70, and NFPA 111.

Exception: Where the emergency power system is used for standby power or peak load shaving, such use shall be recorded and shall be allowed to be substituted for scheduled testing of the generator set, provided that appropriate records are maintained.

30. Add Section 1203.7 to read:

1203.7 Testing of battery powered emergency lights and exit signs. Required emergency lighting utilizing battery powered emergency lights, exit signs, or both shall be tested annually. The emergency lights and exit signs shall be tested for proper operation for the time period established in the building code in effect when the equipment was installed. Written records of tests shall be retained by the owner of the building for a minimum of two years after the test is conducted and shall be made available to the fire code official upon request.

C. Make the following changes to Section 1204, Solar Photovoltaic Power Systems.

1. Change Section 1204.1 to read:

1204.1 General. Solar photovoltaic power systems shall be maintained in accordance with Sections 1204.2 through 1204.5 and the applicable building code.

2. Change Section 1204.2 to read:

1204.2 Access and pathways. Roof access, pathways, and spacing requirements shall be maintained in accordance with the applicable building code. [Pathways shall remain capable of supporting the loads required by the applicable building code. Pathways shall be maintained unobstructed and free from vent pipes, conduit or mechanical equipment unless otherwise approved in accordance with the applicable building code. Exceptions: 1. Detached, nonhabitable Group U structures including, but not limited to, detached garages serving Group R-3 buildings, parking shade structures, carports, solar trellises and similar structures.

2. Roof access, pathways and spacing requirements need not be provided where the fire code official has determined that rooftop operations will not be employed.]

3. Delete [Sections ~~1204.2.1 through~~ Section] 1204.3.3 [; and change Section 1204.2.1 to read:

1204.2.1 Roof access points. Roof access points shall be maintained in areas that do not require placement of

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ground ladders over openings such as windows or doors and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs.]

4. Change Section 1204.4 to read:

1204.4 Ground-mounted photovoltaic arrays. A clear, brush-free area of 10 feet (3048 mm) shall be maintained for ground-mounted photovoltaic arrays.

D. Make the following changes to Section 1205, Stationary Fuel Cell Power Systems.

1. Change Section 1205.1 to read:

1205.1 General. Stationary fuel cell power systems shall be maintained in accordance with [this section and] the applicable building code.

2. Delete Sections 1205.2 and 1205.3.

3. Change Section 1205.4 to read:

1205.4 Maintenance. [~~Stationary~~ Installation of stationary] fuel cell power systems shall be [approved by the building official and shall be] maintained in accordance with the applicable building code, NFPA 70 and NFPA 853, the manufacturer's instructions, and the listing. Stationary fuel cell power systems fueled by hydrogen shall be maintained in accordance with the applicable building code, NFPA 2 and NFPA 70, the manufacturer's installation instructions, and the listing.

4. Delete Sections [~~1205.5 through 1205.6.1,] 1205.6.2, and [Sections ~~1205.8 through~~] 1205.13.1 [, and change Sections 1205.5, 1205.6, and 1205.8 through 1205.13 to read:~~

1205.5 Residential use. Stationary fuel cell power systems shall not be operated in Groups R-3, R-4, and R-5 buildings or dwelling units associated with Group R-2 buildings unless they are specifically listed for residential use and approved in accordance with the applicable building code.

1205.6 Indoor installations. Stationary fuel cell power systems operated in indoor locations shall be specifically listed and labeled for indoor use and comply with the applicable building code. For purposes of this section, an indoor location includes a roof and 50% or greater enclosing walls.

1205.8 Outdoor installation. Separation required by the applicable building code for outdoor stationary fuel cell power systems shall be maintained from the following:

1. Lot lines.
2. Public ways.
3. Buildings.
4. Stored combustible materials.
5. Hazardous materials.

6. High-piled stock.

7. Any portion of a designated means of egress system.

8. Other exposure hazards.

1205.9 Fuel supply. The fuel supply for stationary fuel cell power systems shall be maintained in accordance with Chapter 53, Chapter 58, and the applicable building code and based on the particular fuel being supplied to the system.

1205.10 Manual shutoff. Access to a manual shutoff valves shall not be obstructed. Manual shutoff valves shall be maintained in accordance with the applicable building code.

1205.11 Ventilation and exhaust. Ventilation and exhaust for stationary fuel cell power systems shall be operated and maintained in accordance with NFPA 853 and the applicable building code.

1205.12 Fire suppression. Fire suppression for stationary fuel cell power systems shall be maintained in accordance with Chapter 9 and NFPA 853.

1205.13 Gas detection systems. Gas detection systems for stationary fuel cell power systems shall be maintained in accordance with Chapter 9 and the applicable building code.]

E. Make the following changes to Section 1206, Electric Storage Energy Systems.

1. Change Section 1206.2 to read:

1206.2 Stationary storage battery systems. Stationary storage battery systems [~~shall be maintained~~ having capacities exceeding the values indicated] in [~~accordance with~~] the applicable building code [or technologies not listed therein shall be approved by the building official. Stationary storage battery systems shall be maintained in accordance with the applicable building code].

2. Delete Sections 1206.2.1 through 1206.2.4, including Table 1206.2, and change Section 1206.2.7 to read:

1206.2.7 Testing, maintenance, and repair. Storage batteries and associated equipment and systems shall be tested and maintained in accordance with the manufacturer's instructions and the applicable building code. [Any storage batteries or system components used to replace existing units shall be compatible with the battery charger, energy management systems, other storage batteries, and other safety systems. Introducing other types of storage batteries into the stationary storage battery system or other types of electrolytes into flow battery systems shall be treated as a new installation and require approval by the building official before the replacements are introduced into service.]

3. Delete Sections 1206.2.8 through [~~1206.2.8.5.1, 1206.2.8.4 and change Sections 1206.2.8.5, 1206.2.8.5.1, and 1206.2.8.7 through 1206.2.8.7.2 to read:~~

1206.2.8.5 Occupied work centers. Where stationary storage batteries are located in an occupied work center, they shall remain housed in a noncombustible cabinet or other approved enclosure where required by the applicable building code to prevent access by unauthorized personnel.

1206.2.8.5.1 Cabinets. Unless otherwise required by the applicable building code, where stationary batteries are contained in cabinets in occupied work centers, the cabinet enclosures shall remain located within 10 feet (3,048 mm) of the equipment that they support.

1206.2.8.7 Outdoor installations. Stationary storage battery systems located outdoors shall be approved in accordance with the applicable building code and maintained in accordance with this Chapter.

1206.2.8.7.1 Separation. Separation required by the applicable building code for stationary storage battery systems shall be maintained from the following:

1. Lot lines.
2. Public ways.
3. Buildings.
4. Stored combustible materials.
5. Hazardous materials.
6. High-piled stock.
7. Other exposure hazards.

Exception: The fire code official is authorized to approve smaller separation distances if large scale fire and fault condition testing conducted or witnessed and reported by an approved testing laboratory is provided showing that a fire involving the system will not adversely impact occupant egress from adjacent buildings, or adversely impact adjacent stored materials or structures.

1206.2.8.7.2 Means of egress. Separation distances of outdoor stationary storage battery systems to means of egress required by the applicable building code shall be maintained.]

4. Delete Sections [~~1206.2.8.7 through 1206.2.12.6~~ 1206.2.9.1, 1206.2.11.1, 1206.2.11.1.1, 1206.2.11.2, 1206.2.11.3.1, 1206.2.11.3.2, 1206.2.11.4, and 1206.2.11.4.1], including Table 1206.2.9 [and change Sections 1206.2.9, 1206.2.10 through 1206.2.11, 1206.2.11.3, 1206.2.12.1, 1206.2.12.2, 1206.2.12.4, 1206.2.12.5, and 1206.2.12.6 to read:

1206.2.9 Maximum allowable quantities. Fire areas within buildings containing stationary storage battery systems exceeding the maximum allowable quantities indicated in the applicable building code shall comply with the applicable building code requirements for Group H occupancies. Where a maximum allowable quantity is not listed in the applicable building code, quantities must be approved by the building official.

1206.2.10 Storage batteries and equipment. The maintenance of storage batteries and related equipment shall comply with Sections 1206.2.10.1 through 1206.2.10.8.

1206.2.10.1 Listings. Where required by the applicable building code, storage batteries and battery storage systems shall be listed.

Exception: Lead-acid batteries are not required to be listed.

1206.2.10.2 Prepackaged and pre-engineered systems. Prepackaged and pre-engineered stationary storage battery systems shall be maintained in accordance with their listing and the manufacturer's instructions.

1206.2.10.3 Energy management system. Where provided or required by the applicable building code, approved energy management systems for battery technologies other than lead-acid and nickel cadmium shall be operated and maintained within the manufacturer's specifications for monitoring and balancing cell voltages, currents, and temperatures. Systems that transmit an alarm signal to an approved location in accordance with the applicable building code if potentially hazardous temperatures or other conditions, such as short circuits, over voltage, or under voltage are detected, shall be maintained.

1206.2.10.4 Battery chargers. Unless otherwise required by the applicable building code, battery chargers shall be compatible with the battery chemistry and the manufacturer's electrical ratings and charging specifications. Battery chargers shall be listed and labeled in accordance with UL 1564 or provided as part of a listed pre-engineered or prepackaged stationary storage battery system.

1206.2.10.5 Inverters. Where required by the applicable building code, inverters shall be listed and labeled in accordance with UL 1741. Only inverters listed and labeled for utility interactive system use and identified as interactive shall be allowed to operate in parallel with the electric utility power system to supply power to common loads.

1206.2.10.6 Safety caps. Flame-arresting safety caps for vented batteries, provided or required in accordance with the applicable building code shall be maintained.

1206.2.10.7 Thermal runaway. Storage batteries provided with a listed device or other approved method to prevent, detect, and control thermal runaway in accordance with the applicable building code shall be maintained.

1206.2.10.8 Toxic and highly toxic gas. Stationary storage battery systems that have the potential to release toxic and highly toxic gas during charging, discharging, and normal use conditions shall comply with Chapter 60 and the applicable building code.

1206.2.11 Fire-extinguishing and detection systems. Fire-extinguishing and detection systems shall be maintained

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in accordance with Chapter 9 and the applicable building code.

1206.2.11.3 Ventilation. Ventilation of rooms containing stationary storage battery systems shall be operated and maintained in accordance with the applicable building code.

Where cabinets contain storage batteries and are located in occupied spaces are required by the applicable building code to be provided with ventilation, the ventilation shall be operated and maintained. Where supervision of ventilation systems is provided or required by the applicable building code, it shall be maintained.

1206.2.12.1 Lead-acid storage batteries. Stationary storage battery systems utilizing lead-acid storage batteries shall be maintained in accordance with the applicable building code and the following:

Ventilation shall be operated and maintained in accordance with Section 1206.2.11

Spill control and neutralization shall be in accordance with Section 1206.2.

Thermal runaway protection shall be maintained for valve-regulated lead-acid (VRLA) storage batteries in accordance with Section 1206.2.10.7.

The signage in Section 1206.2.8.6 shall indicate the room contains lead-acid batteries.

1206.2.12.2 Nickel-cadmium (Ni-Cd) storage batteries. Stationary storage battery systems utilizing nickel-cadmium (Ni-Cd) storage batteries shall be maintained in accordance with the applicable building code and the following:

Ventilation shall be operated and maintained in accordance with Section 1206.2.11.

Spill control and neutralization shall be in accordance with Section 1206.2.

Thermal runaway protection shall be provided for valve-regulated sealed nickel-cadmium storage batteries in accordance with Section 1206.2.10.7.

The signage in Section 1206.2.8.6 shall indicate the room contains nickel-cadmium batteries.

1206.2.12.4 Sodium-beta storage batteries. Stationary storage battery systems utilizing sodium-beta storage batteries shall be maintained in accordance with the applicable building code and the following:

Ventilation shall be operated and maintained in accordance with Section 1206.2.11.

The signage in Section 1206.2.8.6 shall indicate the type of sodium batteries in the room and include the instructions, "APPLY NO WATER."

1206.2.12.5 Flow storage batteries. Stationary storage battery systems utilizing flow storage batteries shall be

maintained in accordance with the applicable building code and the following:

Ventilation shall be operated and maintained in accordance with Section 1206.2.11.

Spill control and neutralization shall be in accordance with Section 1206.2.

The signage required in Section 1206.2.8.6 shall indicate the type of flow batteries in the room.

1206.2.12.6 Other battery technologies. Stationary storage battery systems utilizing battery technologies other than those described in Sections 1206.2.12.1 through 1206.2.12.5 shall be maintained in accordance with the applicable building code and the following:

Gas detection systems shall be provided where required by the applicable building code and maintained in accordance with Chapter 9. Mechanical ventilation shall be operated and maintained in accordance with Section 1206.2.11.

Spill control and neutralization shall be in accordance with Section 1206.2.

In addition to the signage required in Section 1206.2.8.6, the marking shall identify the type of batteries present, describe the potential hazards associated with the battery type, and indicate that the room contains energized electrical circuits.]

5. Change [~~Section Sections~~] 1206.3 [and 1206.3.2.6 through 1206.3.2.6.2] to read:

1206.3 Capacitor energy storage systems. Capacitor energy storage systems [~~shall be maintained in accordance with the applicable building code.~~ having capacities exceeding 3 kWh (10.8 megajoules) shall comply with Sections 1206.3 through 1206.3.2.6.1.

Exception: Capacitors regulated by NFPA 70, Chapter 460, and capacitors included as a component part of other listed electrical equipment are not required to comply with this section.

1206.3.2.6 Outdoor installation. Capacitor energy systems located outdoors shall be approved in accordance with the applicable building code and maintained in accordance with Chapter 12.

1206.3.2.6.1 Separation. Separation required by the applicable building code for capacitor energy systems shall be maintained from the following:

1. Lot lines.
2. Public ways
3. Buildings.
4. Stored combustible materials.
5. Hazardous materials.
6. High-piled stock.
7. Other exposure hazards.

Exception: The fire code official is authorized to approve lesser separation distances if large-scale fire and fault condition testing conducted or witnessed and reported by an approved testing laboratory is provided showing that a fire involving the system will not adversely impact occupant egress from adjacent buildings, or adversely impact adjacent stored materials or structures.

1206.3.2.6.2 Means of egress. Separation distances of capacitor energy systems to means of egress required by the applicable building code shall be maintained.]

6. Delete Sections 1206.3.1 through 1206.3.2.3.

7. Delete Sections [1206.3.2.6 through 1206.3.5.4, 1206.3.5.1, 1206.3.5.1.1, 1206.3.5.2, and 1206.3.5.3.1 and change Sections 1206.3.3 through 1206.3.4.3, 1206.3.5, and 1206.3.5.3 to read:

1206.3.3 Maximum allowable quantities. Fire areas within buildings containing capacitor energy storage systems that exceed the maximum energy capacity indicated in the applicable building code shall comply with the applicable building code requirements for Group H occupancies. Where a maximum energy capacity is not listed in the applicable building code, quantities must be approved by the building official.

1206.3.4 Capacitors and equipment. The operation and maintenance of capacitor energy storage systems and related equipment shall comply with Sections 1206.3.4.1 through 1206.3.4.5.

1206.3.4.1 Listing. Where required by the applicable building code, capacitors and capacitor energy storage systems shall be listed in accordance with the applicable building code.

1206.3.4.2 Prepackaged and pre-engineered systems. In addition to other applicable requirements of this code, prepackaged and pre-engineered capacitor energy storage systems shall be maintained in accordance with their listing and the manufacturer’s instructions.

1206.3.4.3 Energy management system. Where provided or required by the applicable building code, approved energy management systems shall be operated and maintained within the manufacturer’s specifications for monitoring and balancing cell voltages, currents and temperatures. Systems that transmit an alarm signal to an approved location in accordance with the applicable building code if potentially hazardous temperatures or other conditions, such as short circuits, over voltage, or under voltage are detected, shall be maintained.

1206.3.5 Fire-extinguishing and detection systems. Fire-extinguishing and smoke detection systems provided or required by the applicable building code in capacitor energy storage system rooms shall be maintained in accordance with Chapter 9.

1206.3.5.3 Ventilation. Ventilation of rooms containing capacitor energy storage systems shall be operated and maintained in accordance with the applicable building code.

Where supervision of ventilation systems is provided or required by the applicable building code, it shall be maintained.]

8. Change Section 1206.3.6 to read:

1206.3.6 Testing, maintenance, and repair. Capacitors and associated equipment and systems shall be tested maintained and repaired in accordance with the manufacturer's instructions and the applicable building code.

13VAC5-51-138.4 IFC Chapter 20 Aviation Facilities.

A. The following change shall be made to Section 2001, General:

Change Section 2001.3 to read:

2001.3 Permits. For permits to operate aircraft-refueling vehicles, application of flammable or combustible finishes and hot work, see Section 107.2.

B. The following changes shall be made to Section 2007, Helistops and Heliports:

1. Change Section 2007.1 to read:

~~(N)2007.1~~ 2007.1 General. Helistops and heliports shall be maintained in accordance with ~~the applicable building code~~ Sections 2007.2 through 2007.8.

2. Change Section 2007.4 to read:

2007.4 Exits. Exits and stairways shall be maintained in accordance with Chapter 10 and the applicable building code.

3. Change Section 2007.5 to read:

~~(N)2007.5~~ 2007.5 Standpipe systems. ~~Where provided, A building with a rooftop helistop or heliport provided with a Class I or III standpipe systems system shall be maintained in accordance with Chapter 9 and the applicable code.~~

4. Change Section 2007.6 to read:

~~(N)2007.6~~ 2007.6 Foam protection. ~~Where provided, foam fire protection systems shall be maintained in accordance with or required by the applicable building code, foam fire-protection capabilities shall be maintained for rooftop heliports. Such systems shall be maintained in accordance with the applicable provisions of Chapter 9 and the applicable building code.~~

VA.R. Doc. No. R19-5886; Filed May 10, 2021, 4:52 p.m.



TITLE 18. PROFESSIONAL AND OCCUPATIONAL LICENSING

VIRGINIA BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS

Reproposed Regulation

Title of Regulation: 18VAC15-50. Lead-Based Paint Renovation, Repair, and Painting Regulations (adding 18VAC15-50-10 through 18VAC15-50-460).

Statutory Authority: §§ 54.1-501 and 54.1-501.8 of the Code of Virginia.

Public Hearing Information:

July 14, 2021 - 10 a.m. - Department of Professional and Occupational Regulation, 9960 Mayland Drive, Suite 200, Richmond, VA 23233.

Public Comment Deadline: July 23, 2021.

Agency Contact: Trisha L. Lindsey, Executive Director, Virginia Board for Asbestos, Lead, and Home Inspectors, 9960 Mayland Drive, Suite 400, Richmond, VA 23233, telephone (804) 367-8595, FAX (866) 350-5354, or email alhi@dpor.virginia.gov.

Basis: Section 54.1-201.5 of the Code of Virginia grants the board the power and duty to promulgate regulations in accordance with the Administrative Process Act (§ 2.2-4000 et seq. of the Code of Virginia) necessary to assure continued competency, to prevent deceptive or misleading practices by practitioners, and to effectively administer the regulatory system administered by the regulatory board.

Section 54.1-501.8 of the Code of Virginia requires that the board promulgate regulations establishing procedures and requirements for the (i) approval of accredited renovation training programs, (ii) licensure of individuals and firms to engage in renovation, and (iii) establishment of standards for performing renovations consistent with the Residential Lead-based Paint Hazard Reduction Act and United States Environmental Protection Agency (EPA) regulations.

Pursuant to Chapter 819 of the 2009 Acts of the Assembly, the Virginia Board for Asbestos, Lead, and Home Inspector's authority to implement the regulation is mandatory.

Purpose: The proposed regulation fulfills specific statutory requirements and allows the board to establish, monitor, and enforce a regulatory program that addresses lead-based paint hazards created by renovation, repair, and painting activities. Renovation, repair, and painting activities that disturb lead-based paint in target housing and child-occupied facilities increase the threat of lead-based paint exposure by dispersing lead particles in the air and over household items. Both adults and children can receive hazardous lead paint exposures by inhaling or ingesting lead-based paint dust. Studies have shown that lead poisoning can cause permanent damage to the brain and other organs. In children, lead poisoning can cause

lower IQ levels and behavioral problems. The goal of the proposed regulation is to ensure that individuals and businesses conducting lead-based paint renovation, repair, and painting activities are properly trained and licensed so as to enhance the department's ability to protect the health, safety, and welfare of Virginia citizens from the hazard of lead-based paint poisoning.

Substance: The proposed regulation establishes procedures and requirements for the (i) training of individuals; (ii) licensure of individuals and businesses; (iii) approval of accredited renovation training programs and training courses; (iv) standards of practice and conduct for individuals, businesses, and accredited renovation training programs; and (v) recordkeeping for individuals and businesses conducting lead-based paint renovation, repair, and painting activities.

Issues: The primary advantages to the public and the Commonwealth of implementing the new regulation are the establishment of a regulatory program that sets the minimum competence for individuals and businesses conducting lead-based paint renovation, repair and painting activities, and an expected decline in the number of families exposed to lead from paint, dust, and soil. The expected reduction in exposure to lead-based paint hazards will benefit the quality of life for Virginia citizens, particularly young children, and the quality of the Commonwealth's environment.

An increase in the cost of lead-based paint renovation, repair, and painting projects can be reasonably anticipated because of costs associated with training, licensure, and work practice requirements. At first glance, the anticipated increase may appear to be a disadvantage to the public or the Commonwealth. However, the anticipated increased cost will be offset by the expected reduction in the number of families exposed to lead-based paint hazards and the consequent reduction in the number of children affected by lead poisoning.

Department of Planning and Budget's Economic Impact Analysis:

Summary of the Proposed Amendments to Regulation. The 2009 Acts of Assembly, Chapter 819 amended §§ 54.1-500, 54.1-500.1, 54.1-501, 54.1-503, 54.1-512, 54.1-516, and 54.1-517 of the Code of Virginia to mandate the regulation of lead renovation, repair, and painting activities.

The Board for Asbestos, Lead, and Home Inspectors (Board) proposes these new regulations to comply with the mandate. The proposed new regulations establish: 1) a regulatory program for the licensure of renovators, dust sampling technicians and renovation contractor firms; 2) requirements for the approval of accredited renovator and dust sampling technician training programs; and 3) standards of conduct and work practices that are consistent with the United States Environmental Protection Agency (EPA) Lead Renovation, Repair, and Painting Program Final Rule.

Result of Analysis. The benefits likely exceed the costs for all proposed changes.

Estimated Economic Impact. The proposed regulation fulfills specific statutory requirements and allows the Department of Professional and Occupational Regulation (Department) to establish, monitor, and enforce a regulatory program that addresses lead-based paint hazards created by renovation, repair, and painting activities. Renovation, repair, and painting activities that disturb lead-based paint in target housing and child-occupied facilities increase the threat of lead-based paint exposure by dispersing lead particles in the air and over household items. Both adults and children can receive hazardous lead paint exposures by inhaling or ingesting lead-based paint dust.¹ Studies have shown that lead poisoning can cause permanent damage to the brain and other organs.² In children, lead poisoning can cause lower IQ levels and behavioral problems.³ The goal of the proposed regulation is to ensure that individuals and businesses conducting lead-based paint renovation, repair and painting activities are properly trained and licensed so as to enhance the Department's ability to protect the health, safety, and welfare of Virginia citizens from the hazard of lead-based paint poisoning. As the referenced peer-reviewed studies indicate, exposure to lead-based paint can cause severe health problems. To the extent that the proposed regulations reduce the likelihood that residents of buildings with lead-based paint and renovation, repair and painting workers are exposed to and inhale or ingest lead-based paint, the proposed regulations will likely produce a significant benefit for the public.

Application and annual renewal fees for the new program are expected to be \$45 for individuals and \$60 for businesses. The cost of training courses is expected to be similar to that for other programs regulated by the Board, at an initial cost of \$400 per day of training, and \$50 for renewal. Training courses already approved by the EPA will not need to be audited by the Board, and so the initial licensing fee will be \$25. Costs and fees may vary based on the actual number of regulants entering the program. From the public perspective, these costs will likely be offset by lower medical and educational costs for those children and adults who are not exposed to lead poisoning due to the likely positive impact of the proposed regulations.

Businesses and Entities Affected. The new regulations will apply to businesses and individuals practicing renovation or modification of any existing structure that results in the disturbance of painted surfaces and will apply to providers of training for such practice. Based on the best information available, the Department estimates that approximately 10,000 businesses and 10,000 individuals will be licensed under these regulations. Most would be small businesses.

Localities Particularly Affected. The proposed regulations do not disproportionately affect particular localities.

Projected Impact on Employment. The proposal amendments are unlikely to significantly affect total employment. The moderate increase in costs for renovation contractor firms may lead to some reduction in affiliated jobs. On the other hand,

increased demand for training from firms that provide accredited renovation training should at least partially offset such potential moderate job loss.

Effects on the Use and Value of Private Property. The proposed regulations will increase costs for businesses practicing renovation or modification of any existing structure that results in the disturbance of painted surfaces. This may result in a moderate reduction in the value of such firms. On the other hand, firms that provide accredited renovation training will likely have more demand for their services, higher revenue, and increased firm value.

Small Businesses: Costs and Other Effects. The proposed regulations will moderately increase costs for small businesses practicing renovation or modification of any existing structure that results in the disturbance of painted surfaces.

Small Businesses: Alternative Method that Minimizes Adverse Impact. There is no apparent alternative method that reduces the adverse impact to small businesses and still accomplishes the policy goal of reduced lead poisoning.

Real Estate Development Costs. The proposed regulations may moderately increase the cost of renovating or modifying existing structures.

¹Needleman (2004)

²Goldstein (1990), Needleman (2004) and Rodier (1995)

³Goldstein (1990), Needleman (2004), and Needleman and Gatsonis (1990)

Agency's Response to Economic Impact Analysis: The agency concurs with the economic impact analysis and approval prepared by the Department of Planning and Budget.

Summary:

Pursuant to Chapter 819 of the 2009 Acts of Assembly and to assume control of the federal regulatory program outlined in the U.S. Environmental Protection Agency's (EPA) regulation at 40 CFR 745(q), the revised proposed regulation establishes (i) a regulatory program for the licensure of renovators, dust sampling technicians, and renovation contractor firms; (ii) requirements for the approval of accredited renovator and dust sampling technician training programs; and (iii) standards of conduct and work practices that are consistent with the EPA's Lead Renovation, Repair, and Painting Program final rule.

Chapter 50

Lead-Based Paint Renovation, Repair, and Painting Regulations

Part I

Definitions [and General]

18VAC15-50-10. Definitions.

A. Section 54.1-500 of the Code of Virginia provides definitions of the following terms and phrases used in this chapter:

Accredited renovation training program

Regulations

Board

Dust clearance sampling

Dust sampling technician

Lead-based paint

[~~Lead-based paint activity~~]

Lead-contaminated dust

[~~Lead inspection~~]

Lead inspector

[~~Lead risk assessment~~]

Lead risk assessor

Person

Principal instructor

Renovation

Renovation contractor

Renovator

Training manager

B. The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"Applicant" means a person who has submitted [~~a fully executed an~~] application [to the board], but has not been granted a license [by the board as a renovator, renovation contractor, or dust sampling technician] or approval [by the board] as an accredited renovation training program [~~approval as an accredited renovation training provider, or approval as a training manager or principal instructor by the board~~].

"Application" means a board-prescribed form submitted with the appropriate fee and other required documentation, including [~~but not limited to,~~] references, employment verification, and verification of examination and licensure, certification, or registration.

["Approved training course" means a discipline-specific course that is approved by EPA or by the board and is designated as either initial or refresher. This includes the terms "approved renovator initial training course," "approved renovator refresher training course," "approved dust sampling technician initial training course," and "approved dust sampling technician refresher training course."]

"Child-occupied facility" means a building or portion of a building constructed prior to 1978, visited regularly by the same child, under six years of age, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least three hours and the combined weekly visits last at least six hours, and the

combined annual visits last at least 60 hours. Child-occupied facilities may include[~~but are not limited to,~~] day care centers, preschools and kindergarten classrooms. Child-occupied facilities may be located in target housing or in public or commercial buildings. With respect to common areas in public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only those common areas that are routinely used by children under age six, such as restrooms and cafeterias. Common areas that children under age six only pass through, such as hallways, stairways, and garages are not included. In addition, with respect to exteriors of public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only the exterior sides of the building that are immediately adjacent to the child-occupied facility or the common areas routinely used by children under age six.

[~~"Cleaning verification card" means a card developed and distributed or otherwise approved by EPA for the purpose of determining, through comparison of wet and dry disposable cleaning cloths with the card, whether post renovation cleaning has been properly completed.~~]

"Common area" means the portion of a building that is generally accessible to all occupants. This includes [~~but is not limited to,~~] hallways, stairways, [~~laundry rooms, recreational rooms~~ laundry and recreational rooms], playgrounds, community centers, garages, and boundary fences.

"Component or building component" means specific design or structural elements or fixtures of a building or residential dwelling that are distinguished from each other by form, function, and location. These include [~~but are not limited to,~~] interior components such as ceilings, crown molding, walls, chair rails, doors, door trim, floors, fireplaces, radiators and other heating units, shelves, shelf supports, stair treads, stair risers, stair stringers, newel posts, railing caps, balustrades, windows and trim (including sashes, window heads, jambs, sills or stools and troughs), built in cabinets, columns, beams, bathroom vanities, counter tops, and air conditioners; and [~~(it)~~] exterior components such as painted roofing, chimneys, flashing, gutters and downspouts, ceilings, soffits, fascias, rake boards, cornerboards, bulkheads, doors and door trim, fences, floors, joists, lattice work, railings and railing caps, siding, handrails, stair risers and treads, stair stringers, columns, balustrades, windowsills or stools and troughs, casings, sashes and wells, and air conditioners.

"Containment" means a process to protect workers, building occupants, and the environment by controlling exposures to the lead-contaminated dust and debris created during a renovation activity.

[~~"Course agenda" means an outline of the key topics to be covered during a training course, including the time allotted to teach each topic.~~]

"Course test" "Course examination"] means an evaluation of the overall effectiveness of the training that tests the trainee's knowledge and retention of the topics covered during the course.

"Department" means the Department of Professional and Occupational Regulation or any successor agency.

["~~Discipline~~" means one of the specific job categories established in this chapter for which individuals must receive training from accredited renovation training providers, as defined in this chapter, and become licensed by the board. For an example, "renovator" is a discipline.

"Discipline" means either renovator or dust sampling technician and refers to the two categories in which training courses may be approved and licenses may be issued pursuant to this chapter.]

["~~Dry disposable cleaning cloth" means a commercially available dry, electrostatically charged, white disposable cloth designed to be used for cleaning hard surfaces such as uncarpeted floors or countertops.]~~

"Emergency renovation" means renovation, remodeling, or repainting activities that were not planned, but resulted from a sudden, unexpected event that if not immediately attended to [,] presents a safety or public health hazard or threatens equipment or property with significant damage.

"EPA" means the U.S. Environmental Protection Agency.

"Firm" means any business entity recognized under the laws of the Commonwealth of Virginia.

["~~High efficiency particulate air vacuum" or "HEPA vacuum" means a vacuum cleaner that has been designed with a HEPA filter as the last filtration stage. A HEPA filter is a filter that is capable of capturing particles of 0.3 microns with 99.97% efficiency. The vacuum cleaner shall be designed so that all the air drawn into the machine is expelled through the HEPA filter with none of the air leaking past it.]~~

"HUD" means the U.S. Department of Housing and Urban Development.

["~~Interim controls" means a set of measures designed to temporarily reduce human exposure or likely exposure to lead-based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of lead-based paint hazards or potential hazards, and the establishment and operation of management and resident education programs.~~

~~"Inspection" means a surface-by-surface investigation to determine the presence of lead based paint and the provision of a report explaining the results of the investigation.]~~

"Late renewal" means a period of time during which a regulant may renew a license or accredited renovation training program approval after its expiration date by paying an

established fee without having to meet additional requirements.

"Licensee" means any person [~~as defined by § 54.1-500 of the Code of Virginia,~~] who has been issued and holds a [~~currently~~] valid license as a dust sampling technician, renovator, or renovation contractor.

"Minor repair and maintenance activities" means activities, including minor heating, ventilation [;] or air conditioning work, electrical work, and plumbing, that disrupt six square feet or less of painted surface per room for interior activities or 20 square feet or less of painted surface for exterior activities where none of the work practices prohibited or restricted by this chapter are used and where the work does not involve window replacement or demolition of painted surface areas. When removing painted components, or portions of painted components [,] the entire surface area removed is the amount of painted surface disturbed. Jobs, other than emergency renovations, performed in the same room within the same 30 days shall be considered the same job for the purpose of determining whether the job is a minor repair and maintenance activity.

["~~NLLAP" means the National Lead Laboratory Accreditation Program.]~~

"OSHA" means the U.S. Department of Labor, Occupational Safety and Health Administration.

"Recognized test kit" means a commercially available kit recognized by EPA as being capable of allowing a user to determine the presence of lead at levels equal to or in excess of 1.0 milligrams per square centimeter or more than 0.5% lead by weight in a paint chip, paint powder, or painted surface.

"Regulant" means a licensee [; or accredited renovation] training program [~~or training provider~~].

"Renewal" means the process and requirements for periodically approving [~~a regulant to continue practicing~~ the continuance of a license or approval as an accredited renovation training program approved training course].

["~~Substantially equivalent" means requirements that do not conflict with and are at least as rigorous as this chapter and supporting statutes of the board.]~~

"Target housing" means any housing constructed prior to 1978, except for housing for the elderly or persons with disabilities [(,) unless any one or more children age six years or [~~under~~ younger] resides or is expected to reside in such housing for the elderly or persons with disabilities [;) or any zero-bedroom dwelling.

"Training hour" means at least 50 minutes of actual instruction, including [~~but not limited to~~] time devoted to lecture, learning activities, small group activities, demonstrations, evaluations, and hands-on experience.

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[~~"Wet disposable cleaning cloth" means a commercially available, premoistened white disposable cloth designed to be used for cleaning hard surfaces such as uncarpeted floors or countertops.~~

~~"Wet mopping system" means a device with the following characteristics: a long handle, a mop head designed to be used with disposable absorbent cleaning pads, a reservoir for cleaning solution, and a built-in mechanism for distributing or spraying the cleaning solution onto a floor, or a method of equivalent efficacy.]~~

~~"Work area" means the area that the licensed renovator establishes to contain the dust and debris generated by a renovation.~~

Part II [General]

18VAC15-50-20. Licensure and training program approval requirements.

~~A. A license issued by the board is required of any person who engages in renovation or dust [clearance] sampling [activities] as defined in § 54.1-500 of the Code of Virginia [, unless exempt pursuant to § 54.1-512 of the Code of Virginia].~~

~~B. Any person who holds a valid EPA renovation [, repair, and painting] firm, renovator, or dust sampling technician certification on or before (insert the effective date of this chapter), may continue to lawfully practice in Virginia until (insert date that is 12 months after effective date of this chapter). Effective (insert date that is 12 months plus one day after effective date of this chapter), to continue to lawfully practice in Virginia, a valid Virginia renovation contractor, renovator, or dust sampling technician license, as appropriate, shall be required.~~

~~[C. Training courses intended to satisfy the training requirements of this chapter shall be approved by the board.~~

~~C. Notwithstanding the provisions of subsection D of this section, renovation training programs and training courses intended to satisfy the training requirements of this chapter shall be approved by the board.]~~

~~D. Any person who holds a valid EPA renovator or dust sampling technician training program accreditation on or before (insert the effective date of this chapter), may continue to provide accredited training in Virginia until (insert date which is 12 months after effective date of this chapter). Effective (insert date that is 12 months plus one day after effective date of this chapter), to continue to provide accredited training in Virginia, [a valid Virginia training program accreditation shall be required the renovation training program must obtain and maintain board-approval as an accredited renovation training program].~~

~~[E. Application shall be made in compliance with 18VAC15-50-60, 18VAC15-50-70, or 18VAC15-50-80, as appropriate.]~~

18VAC15-50-30. [Exemptions from licensure requirement Renovation activities].

~~[This chapter shall not apply to the following:~~

~~1. A person performing a minor repair and maintenance activity as defined in 18VAC15-50-10.~~

~~2. A person performing a renovation activity and the paint involved in the renovation activity has been tested by a licensed lead inspector or licensed lead risk assessor who has determined that the paint does not meet the definition of lead-based paint as defined in § 54.1-500 of the Code of Virginia. The renovation contractor shall obtain and maintain a copy of the written inspection or risk assessment report.~~

~~3. A person performing a renovation activity and the paint involved in the renovation activity has been tested by a licensed renovator who, using an EPA recognized test kit as defined in 18VAC15-50-10 and following the kit's manufacturer's instructions, has determined that the paint does not meet the definition of lead-based paint as defined in § 54.1-500 of the Code of Virginia.~~

~~Only the following persons may conduct renovation activities for compensation in target housing and child-occupied facilities:~~

~~1. An individual licensed by the board as a renovator. The licensed renovator shall be the sole proprietor of a licensed renovation contractor firm or work for a licensed renovation contractor through employment, contract, or other agreement.~~

~~2. An individual trained by and under the direct supervision of a licensed renovator through employment, contract, or other agreement.~~

~~3. A firm licensed by the board as a renovation contractor. The firm shall have a renovator who is an owner, principal, officer, or employee of the firm, or under contract or engaged to the firm via some other agreement.]~~

18VAC15-50-40. [Issuance of temporary licenses not applicable Activities exempt from licensure requirement].

~~[The board shall not issue temporary licenses pursuant to § 54.1-201.1 of the Code of Virginia.~~

~~This chapter shall not apply to the following:~~

~~1. A person performing a minor repair and maintenance activity as defined in 18VAC15-50-10.~~

~~2. A person performing a renovation activity and the paint involved in the renovation activity has been tested by a licensed lead inspector or licensed lead risk assessor who has determined that the paint does not meet the definition of lead-based paint as defined in § 54.1-500 of the Code of Virginia. The renovation contractor shall obtain and~~

maintain a copy of the written inspection or risk assessment report.

3. A person performing a renovation activity and the paint involved in the renovation activity has been tested by a licensed renovator using a recognized test kit, as defined in 18VAC15-50-10, and, following the kit's manufacturer's instructions or collecting paint chip samples from each painted component to be renovated and submitting to an NLLAP recognized laboratory for analysis, has determined that the paint does not meet the definition of lead-based paint as defined in § 54.1-500 of the Code of Virginia.]

Part III
Entry

18VAC15-50-50. Application procedures.

A. Each applicant seeking licensure or accredited renovation training program approval shall submit an application [on forms provided by the board] with the appropriate fee specified in [~~18VAC15-50-100~~ 18VAC15-50-250], [~~Application shall be made on forms provided by the board~~ The applicant shall meet the requirements in effect at the time that the application is received by the department].

B. By signing the application or submitting it electronically to the department, the applicant certifies that he has read and understands the board's statutes and regulations.

C. The receipt of an application and the deposit of fees by the [~~board~~ department does] not indicate approval by the board.

D. The board may make further inquiries and investigations with respect to the applicant's qualifications to confirm or amplify information supplied.

E. Each applicant will be notified if his application is incomplete. [~~An applicant~~ Applicants] who [~~fails~~ fail] to complete the process within 12 months of the date of the department's receipt of the original application shall submit a new application and [~~the appropriate fee~~ meet the entry requirements in effect at the time the new application is received by the board].

18VAC15-50-60. [~~Qualifications for licensure—individuals~~ General qualifications for individual licensure].

[~~A. General. Each applicant shall meet entry requirements in effect at the time that the application is received by the department.~~

B. Name. The applicant shall disclose his full legal name.

C. Age. The applicant shall be at least 18 years old.

D. Address. The applicant shall disclose a physical address. A post office box is only acceptable when a physical address is also provided.

E. Specific entry requirements.

1. Renovator.

~~a. An individual applying for a renovator license shall have successfully completed a board approved or EPA approved renovator initial training course. If the initial training course was completed more than 60 months prior to the application, the applicant shall have successfully completed an accredited refresher course at least once every 60 months after the date of completion of initial training; or~~

~~b. An individual who has successfully completed a board approved or EPA approved lead worker or supervisor course within the 36 months immediately preceding application or an individual who has successfully completed HUD, EPA, or the joint EPA/HUD model renovation training course may take a board approved or EPA approved renovator refresher training course in lieu of the renovator initial training course.~~

2. Dust sampling technician.

~~a. An individual applying for an initial dust sampling technician license shall have successfully completed a board approved or EPA approved dust sampling technician initial training course. If the initial training course was completed more than 60 months prior to the application, the applicant shall have successfully completed an accredited dust sampling technician refresher course at least once every 60 months after the date of completion of initial training; or~~

~~b. An individual who successfully completed a board approved or EPA approved lead based paint inspector or risk assessor course within the 36 months immediately preceding application, but is not licensed in the discipline by the board, may take a board approved or EPA approved dust sampling technician refresher training course in lieu of the dust sampling technician initial training course.~~

F. Training verification. The applicant shall include with the application:

1. Renovator.

~~a. A copy of the certificate of completion from the board approved or EPA approved renovator initial training course, and if the initial training was completed more than 60 months prior to the application, a copy of the certificate of completion from the most recent renovator refresher training course; or~~

~~b. A copy of the certificate of completion from the board approved or EPA approved renovator refresher training course and a copy of the certificate of completion from either an accredited lead worker or lead supervisor training course or HUD, EPA, or the joint EPA/HUD model renovation training course completed within the 36 months immediately preceding application.~~

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2. Dust sampling technician.

~~a. A copy of the certificate of completion from the board approved or EPA approved dust sampling technician initial course, and if the initial training was completed more than 60 months prior to the application, a copy of the certificate of completion from the most recent dust sampling technician refresher training course; or~~

~~b. A copy of the certificate of completion from the board approved or EPA approved dust sampling technician refresher training course and a copy of the certificate of completion from a board approved or EPA approved lead based paint inspector or risk assessor training course completed within the 36 months immediately preceding application.~~

~~G. Convictions. Each applicant shall disclose all convictions, in any jurisdiction, of any misdemeanor or felony. Any plea of nolo contendere shall be considered a conviction for the purpose of this subsection. The record of a conviction certified or authenticated in such form as to be admissible in evidence under the laws of the jurisdiction where convicted shall be admissible as prima facie evidence of such guilt. The board will consider any conviction in accordance with § 54.1-204 of the Code of Virginia.~~

~~H. Disciplinary action. Applicants shall disclose any disciplinary action taken in any jurisdiction in connection with the applicant's environmental remediation practice, including but not limited to monetary penalties, fines, suspension, revocation, or surrender of a license in connection with a disciplinary action.~~

~~I. Standards of practice and conduct. Applicants shall be in compliance with the standards of practice and conduct established in this chapter, as applicable, at the time of application to the board, while the application is under review by the board, and at all times when the license is in effect.~~

~~J. Standing. The applicant shall be in good standing in every jurisdiction where licensed and the applicant shall not have had a license that was suspended, revoked, or surrendered in connection with any disciplinary action in any jurisdiction prior to applying for licensure in Virginia. The board, at its discretion, may deny licensure or accreditation to any applicant based on disciplinary action by any jurisdiction.~~

~~K. Applicants who disclose items specified in subsections H through J of this section may be granted a license following consideration by the board, in accordance with provisions of the Administrative Process Act (§ 2.2-4000 et seq. of the Code of Virginia).~~

In addition to the license-specific qualifications for licensure in 18VAC15-50-70 or 18VAC15-50-80, as applicable, an individual seeking licensure as a renovator or dust sampling technician shall comply with the following:

1. The applicant shall disclose his full legal name.

2. The applicant shall be at least 18 years old.

3. The applicant shall disclose a physical and mailing address. A post office box is only acceptable when a physical address is also provided.

4. Each applicant shall disclose all convictions, in any jurisdiction, of any misdemeanor within the last five years or of any felony. Any plea of nolo contendere shall be considered a conviction for the purpose of this subsection. The record of a conviction certified or authenticated in such form as to be admissible in evidence under the laws of the jurisdiction where convicted shall be admissible as prima facie evidence of such guilt. The board will consider any conviction in accordance with § 54.1-204 of the Code of Virginia.

5. Applicants shall be in compliance with the standards of practice and conduct established in this chapter, EPA, and OSHA, as applicable, at the time of application to the board, while the application is under review by the board, and at all times when the license is in effect.

6. Applicants shall disclose any disciplinary action taken in any jurisdiction including monetary penalties, fines, suspension, revocation, or surrender of a license in connection with a disciplinary action.

7. The applicant shall be in good standing in every jurisdiction where licensed or certified. The board, at its discretion, may deny licensure or certification to an applicant based on disciplinary action by any jurisdiction, including monetary penalties, fines, suspension, revocation, or surrender of a license or certificate.

8. Applicants who disclose items specified in subdivisions 4 and 6 of this section may be granted a license following consideration by the board, in accordance with provisions of the Administrative Process Act (§ 2.2-4000 et seq. of the Code of Virginia).]

18VAC15-50-70. Qualifications for licensure [~~renovation contractor firms as a renovator~~].

~~[A. General. Each firm shall secure a license before transacting business in Virginia. Each applicant shall meet entry requirements in effect at the time that the application is received by the department.~~

~~B. Name. The firm's name shall be disclosed on the application. The name under which the firm conducts business and holds itself out to the public (i.e., the trade or fictitious name) shall also be disclosed on the application. Each firm shall register its trade or fictitious name with the State Corporation Commission or the clerk of court in the jurisdiction where the business is to be conducted in accordance with Chapter 5 (§ 59.1-69 et seq.) of Title 59.1 of the Code of Virginia before submitting its application to the board.~~

~~C. Address. The applicant shall disclose a physical address. A post office box is only acceptable as a mailing address when a physical address is also provided.~~

~~D. Form of organization. Applicants shall meet the additional requirements prescribed in this subsection for their business type:~~

~~1. Corporations. All applicants shall have been incorporated in the Commonwealth of Virginia, or if a foreign corporation, shall have obtained a certificate of authority to conduct business in Virginia from the State Corporation Commission in accordance with § 13.1-544.2 of the Code of Virginia. The corporation shall be in good standing with the State Corporation Commission at the time of application to the board and at all times when the license is in effect.~~

~~2. Limited liability companies. All applicants shall have obtained a certificate of organization in the Commonwealth of Virginia, or if a foreign limited liability company, shall have obtained a certificate of registration to do business in Virginia from the State Corporation Commission, in accordance with § 13.1-1105 of the Code of Virginia. The company shall be in good standing with the State Corporation Commission at the time of application to the board and at all times when the license is in effect.~~

~~3. Partnerships. All applicants shall have a written partnership agreement. The partnership agreement shall state that all professional services of the partnership shall be under the direction and control of a licensed or certified professional.~~

~~4. Sole proprietorships. Sole proprietorships desiring to use an assumed or fictitious name, that is a name other than the individual's full name, shall have their assumed or fictitious name recorded by the clerk of the court of the jurisdiction wherein the business is to be conducted, in accordance with Chapter 5 (§ 59.1-69 et seq.) of Title 59.1 of the Code of Virginia.~~

~~E. Qualifications. Each applicant for renovation contractor licensure shall certify that:~~

~~1. All individuals performing renovation activities on behalf of the firm are licensed renovators or have been trained by a licensed renovator as required under this chapter.~~

~~2. A licensed renovator shall be physically present at each work site while warning signs are being posted, work area containment is being established, and work area cleaning is being performed. When not on site during renovation activities, the licensed renovator shall be readily available by telephone and able to be present at the work site in no more than two hours.~~

~~3. The work practice standards for renovation activities established in this chapter and standards established by EPA and OSHA shall be followed at all times during the performance of renovation activities.~~

~~4. Prerenovation education requirements established in this chapter and standards established by EPA shall be followed at all times.~~

~~5. The recordkeeping requirements established in this chapter and standards established by EPA shall be followed at all times.~~

~~6. The firm is in compliance with all other occupational and professional licenses and standards as required by Virginia statute and local ordinance to transact the business of a renovation contractor.~~

~~F. Conviction or guilt. Neither the firm nor its owners, officers, or directors shall have been convicted or found guilty, regardless of adjudication, in any jurisdiction of any felony or misdemeanor involving lying, cheating, or stealing or of any violation while engaged in an environmental remediation activity that resulted in the significant harm or the imminent and substantial threat of significant harm to human health or the environment, there being no appeal pending therefrom or the time for appeal having elapsed. Any plea of nolo contendere shall be considered a conviction for the purposes of this section. A certified copy of the final order, decree, or case decision by a court or regulatory agency with lawful authority to issue such order, decree, or case decision shall be admissible as prima facie evidence of such conviction or discipline. The board will consider any conviction in accordance with § 54.1-204 of the Code of Virginia.~~

~~G. Standards of practice and conduct. Each applicant shall be in compliance with the standards of practice and conduct established by this chapter, EPA, and OSHA at the time of application to the board, while the application is under review by the board, and at all times when the license is in effect.~~

~~H. Standing. Both the firm and the owners, officers, and directors shall be in good standing in every jurisdiction where licensed, and the applicant shall not have had a license or certification that was suspended, revoked, or surrendered in connection with any disciplinary action in any jurisdiction prior to applying for licensure in Virginia. The board may deny licensure or certification to any applicant based on disciplinary action by any jurisdiction.~~

~~I. Denial of license. The board may refuse to issue a license to any renovation contractor applicant if the applicant or its owners, officers, or directors have a financial interest in a renovation contractor whose lead license has been revoked, suspended, or denied renewal in any jurisdiction.~~

~~An applicant for a renovator license shall provide documentation in the form of a certificate of completion that the applicant has successfully completed one of the following:~~

~~1. An approved renovator initial training course. If the initial training was completed more than 60 months prior to the application, the applicant shall have successfully completed an approved renovator refresher training course at least once~~

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every 60 months after the date of completion of an approved renovator initial training course;

2. A board-approved or EPA-approved lead worker or supervisor course within the 36 months immediately preceding application and an approved renovator refresher training course within the 60 months immediately preceding application; or

3. A HUD, EPA, or joint EPA/HUD model renovation training course and an approved renovator refresher training course within the 60 months immediately preceding application.]

18VAC15-50-80. Qualifications for [~~accredited renovation training program approval licensure as a dust sampling technician~~].

[~~A. For a training program to obtain accreditation from the board to teach lead-based paint renovation, repair, and painting activities courses, the program shall demonstrate through its application material that it meets the minimum requirements for principal instructor qualifications, required topic review, length of training, and recordkeeping for each discipline for which the program is seeking accreditation. Training programs shall offer courses that teach the standards for performing lead-based paint renovation, repair, and painting activities contained in this chapter and other such standards adopted by EPA.~~

~~B. Each applicant for approval as an accredited renovation training provider shall meet the requirements established by this chapter before being granted approval to offer an accredited renovation training program. Applicants requesting approval of a dust sampling technician or renovator training program to prepare participants for initial and continued licensure shall apply on a form provided by the board. The application form shall be completed in accordance with the instructions supplied and shall include the following:~~

~~1. The training provider's business name, physical address, mailing address, and telephone number.~~

~~2. The course and type, initial or refresher, for which accreditation is sought. For purposes of this chapter, courses taught in different languages are considered different courses, and each shall independently meet the accreditation requirements of this chapter. A signed statement from a qualified, independent translator that certifies he compared the course to the English language version and found the translation to be accurate shall accompany the application form.~~

~~3. A statement signed by the training program manager that certifies the training program meets the minimum requirements established in this chapter.~~

~~4. A narrative that states how the training course meets the minimum requirements for accreditation in the following areas:~~

~~a. Length of training in hours;~~

~~b. Examination content, length, format, and passing score;~~

~~c. Topics covered in the training course; and~~

~~d. Examination administration and integrity.~~

~~5. The names and qualifications, including resumes, education, training, experience, and relevant certifications of each instructor.~~

~~6. A copy of all training course materials, including but not limited to student manuals, instructor manuals, training aids, and handouts.~~

~~7. A copy of the course agenda that includes the time allotted for each course topic.~~

~~8. A copy of the course test and corresponding answer sheet.~~

~~9. A description of the facilities and equipment to be used for lecture and hands-on training.~~

~~10. A description of the activities and procedures that will be used for conducting the assessment of hands-on skills for the course.~~

~~11. An example of a certificate that will be issued to students who successfully complete the course. The certificate shall contain the information listed in 18VAC15-50-270.~~

~~12. A proposed course date for auditing purposes.~~

~~13. The application fee required by 18VAC15-50-100.~~

~~C. The completed application form with attachments and fee shall be received by the board no later than 45 days before the desired audit date.~~

~~D. All training courses shall be discipline specific. An applicant may apply for accreditation to offer initial and refresher courses in any of the license disciplines defined in this chapter. A separate application and fee shall be made for each course.~~

~~E. Each training program shall be conducted in compliance with this chapter to qualify for and maintain approval as an accredited dust sampling technician or renovator training program.~~

~~F. Online training courses shall be accepted by the board for approval. The initial renovator and dust sampling technician training courses require a minimum of two hours of hands-on training activities. Training providers requesting approval for online initial training courses shall meet the hands-on training requirement.~~

~~G. An accredited training provider shall have been approved by the board or EPA before its training certificates shall be accepted by the board as evidence that an individual has completed an accredited dust sampling technician or renovator training program.~~

~~H. After the application has been found to be complete and in compliance with this chapter, an onsite audit of the training program shall be conducted.~~

~~1. If the onsite audit of the training program reveals a deficiency in compliance with this chapter, then the board shall conduct an additional onsite audit and grant approval or deny approval.~~

~~2. EPA accredited courses approved on or before (insert effective date of this chapter), are exempt from the audit requirement.~~

An applicant for a dust sampling technician license shall provide documentation in the form of a certificate of completion that the applicant has successfully completed one of the following:

1. An approved dust sampling technician initial training course. If the approved dust sampling technician initial training course was completed more than 60 months prior to the application, the applicant shall have successfully completed an approved dust sampling technician refresher training course at least once every 60 months after the date of completion of an approved dust sampling technician initial training course; or

2. A board-approved or EPA-approved lead-based paint inspector or risk assessor initial or refresher training course within the 36 months immediately preceding application.]

18VAC15-50-90. [General fee requirements Qualifications for renovation contractor licensure],

[Part III
Fees

All fees are nonrefundable and shall not be prorated. The date on which the fee is received by the department or its agent will determine whether the fee is on time. Checks or money orders shall be made payable to the Treasurer of Virginia.

A. Each firm shall secure a renovation contractor license before conducting renovations in Virginia, unless such activity is exempt from licensure pursuant to § 54.1-512 of the Code of Virginia.

B. The firm's name shall be disclosed on the application. The name under which the firm conducts business and holds itself out to the public (i.e., the trade or fictitious name) shall also be disclosed on the application. Each firm shall register its trade or fictitious name with the State Corporation Commission or the clerk of court in the county or jurisdiction where the business is to be conducted in accordance with Chapter 5 (§ 59.1-69 et seq.) of Title 59.1 of the Code of Virginia, as applicable, before submitting its application to the board.

C. The applicant shall disclose a physical and mailing address. A post office box is only acceptable as a mailing address when a physical address is also provided.

D. The applicant shall have obtained authorization to do business in Virginia as a corporation, limited liability company, partnership, or association, as applicable, in accordance with Chapter 5 (§ 59.1-69 et seq.) of Title 59.1 of the Code of Virginia or Title 13.1 of the Code of Virginia.

E. Each applicant for renovation contractor licensure shall certify that:

1. All individuals performing renovation activities on behalf of the firm are licensed renovators or have been or will be trained by a licensed renovator as required under this chapter.

2. A licensed renovator shall be physically present at each work site while warning signs are being posted, work area containment is being established, and work area cleaning is being performed, and when not on site during renovation activities, the licensed renovator shall be readily available by telephone and able to be physically present at the work site in no more than two hours.

3. The work practice standards for renovation activities established in this chapter and standards established by EPA and OSHA shall be followed at all times during the performance of renovation activities.

4. Pre-renovation education requirements established in this chapter and standards established by EPA shall be followed at all times.

5. The recordkeeping requirements established in this chapter and standards established by EPA shall be followed at all times.

6. A renovator is assigned to each renovation performed by the firm and discharges all of the renovator responsibilities in accordance with 40 CFR 745.90 and this chapter.

7. The firm is in compliance with all other occupational and professional licenses and standards as required by Virginia statute and local ordinance to transact the business of a renovation contractor.

F. Each applicant shall disclose all convictions, in any jurisdiction, of any misdemeanor within the last five years or any felony of the firm or the owners, officers, or directors of the firm, regardless of adjudication, with no appeal pending or the time of appeal having lapsed. Any plea of nolo contendere shall be considered a conviction for the purposes of this subsection. The record of a conviction certified or authenticated in such form as to be admissible in evidence under the laws of the jurisdiction where convicted shall be admissible as prima facie evidence of such guilt. The board will consider any conviction in accordance with § 54.1-204 of the Code of Virginia.

G. Applicants shall disclose any disciplinary action taken in any jurisdiction including monetary penalties, fines,

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suspension, revocation, or surrender of a license in connection with a disciplinary action.

H. Each applicant shall be in compliance with the standards of practice and conduct established by this chapter, EPA, and OSHA, as applicable, at the time of application to the board, while the application is under review by the board, and at all times when the license is in effect.

I. Both the firm and the owners, officers, and directors of the firm shall be in good standing in every jurisdiction where licensed or certified. The board, at its discretion, may deny licensure or certification to an applicant based on disciplinary action by any jurisdiction, including monetary penalties, fines, suspension, revocation, or surrender of a license or certificate.

J. The board may refuse to issue a license to any renovation contractor applicant if the firm or the owners, officers, or directors of the firm have a financial interest in a renovation contractor who has had a license that has been revoked, suspended or denied renewal in any jurisdiction.]

Part IV

Entry Requirements for Accredited Renovation Training Programs

18VAC15-50-100. [Application fees Accredited renovation training programs and training course approval].

[A. Application fees are as follows:

Fee Type	Fee Amount
<u>License:</u>	
<u>Dust sampling technician</u>	<u>\$45</u>
<u>Renovator</u>	<u>\$45</u>
<u>Renovation contractor firm</u>	<u>\$60</u>
<u>Initial training program approval:</u>	
<u>Accredited dust sampling technician</u>	<u>\$50</u>
<u>Accredited renovator</u>	<u>\$50</u>
<u>Refresher training program approval:</u>	
<u>Accredited dust sampling technician</u>	<u>\$50</u>
<u>Accredited renovator</u>	<u>\$50</u>
<u>Late renewal – license</u>	
<u>Dust sampling technician</u>	<u>\$70*</u>
<u>Renovator</u>	<u>\$70*</u>
<u>Renovation contractor firm</u>	<u>\$85*</u>
<u>Late renewal – initial training program approval</u>	
<u>Accredited dust sampling technician</u>	<u>\$75*</u>
<u>Accredited renovator</u>	<u>\$75*</u>
<u>Late renewal – refresher training program approval</u>	
<u>Accredited dust sampling technician</u>	<u>\$75*</u>
<u>Accredited renovator</u>	<u>\$75*</u>
*includes a \$25 late penalty fee in addition to the renewal fee	

B. Fees are due with the application.

An accredited renovation training program may offer a single or may offer multiple approved training courses. In conjunction with reviewing the application for the accredited renovation training program, the board shall review and if all requirements have been met, approve the training course, training manager, and principal instructor. The training courses for which approval may be sought by an accredited renovation training program are:

1. Renovator initial training course,
2. Renovator refresher training course,
3. Dust sampling technician initial training course, and
4. Dust sampling technician refresher training course.]

18VAC15-50-110. [Renewal fees Qualifications for accredited renovation training program approval].

[A. Renewal fees are as follows:

	Fee Amount
<u>License:</u>	
<u>Dust sampling technician</u>	<u>\$45</u>
<u>Renovator</u>	<u>\$45</u>
<u>Renovation contractor firm</u>	<u>\$60</u>
<u>Initial training program approval:</u>	
<u>Accredited dust sampling technician</u>	<u>\$50</u>
<u>Accredited renovator</u>	<u>\$50</u>
<u>Refresher training program approval:</u>	
<u>Accredited dust sampling technician</u>	<u>\$50</u>
<u>Accredited renovator</u>	<u>\$50</u>
<u>Late renewal – license</u>	
<u>Dust sampling technician</u>	<u>\$70*</u>
<u>Renovator</u>	<u>\$70*</u>
<u>Renovation contractor firm</u>	<u>\$85*</u>
<u>Late renewal – initial training program approval</u>	
<u>Accredited dust sampling technician</u>	<u>\$75*</u>
<u>Accredited renovator</u>	<u>\$75*</u>
<u>Late renewal – refresher training program approval</u>	
<u>Accredited dust sampling technician</u>	<u>\$75*</u>
<u>Accredited renovator</u>	<u>\$75*</u>
*includes a \$25 late penalty fee in addition to the renewal fee	

B. Fees are due with the renewal application.

A. For a renovation training program to obtain approval from the board to provide training for individuals to lawfully engage in renovation or dust clearance sampling, the program shall demonstrate through its application material that it meets the

minimum requirements provided in this chapter, as applicable. Accredited renovation training programs shall offer courses that teach the standards for performing renovation and dust clearance sampling contained in this chapter and other such standards adopted by EPA. A separate application shall be submitted for each type of training course for which approval is sought pursuant to this chapter.

B. The application for an accredited renovation training program shall include the training program provider's business name, physical address, mailing address, and telephone number. A post office box is only acceptable as a mailing address when a physical address is also provided.

C. The applicant shall provide a description of its facilities. Such description shall be sufficient to establish that the facilities are adequate for the delivery of the lecture, course examination, hands-on training, and assessment activities, to include providing training equipment that reflects current work practices and maintaining or updating the equipment or facilities, as needed.

D. The application shall include a copy of the quality control plan that must be developed and implemented by the training manager. The plan shall be used to maintain and improve the quality of the training program over time and shall contain at least the following elements:

1. Procedures for periodic revision of training materials and the course examination to reflect innovations in the field.
2. Procedures for the training manager's annual review of the principal instructor's competency.]

18VAC15-50-120. [~~Renewal required~~ General training course requirements]

[Part IV
Renewal

~~A. Individual dust sampling technician and renovator licenses shall expire 12 months from the last day of the month in which the license was issued.~~

~~B. Renovation contractor licenses shall expire 12 months from the last day of the month in which the license was issued.~~

~~C. Accredited renovation training program approvals shall expire 24 months from the last day of the month in which the board granted approval.~~

~~D. A fee shall be required for renewal as specified in 18VAC15-50-110.~~

A. All training courses submitted for approval shall be subject to an on-site audit by agents of the board prior to approval. Such audit shall be conducted after the application has been found to be in compliance with this chapter. The application shall be received by the board no later than 45 days before the desired audit date.

B. The following course information shall be submitted with the application for approval.

1. The name, discipline, and type of course that will be offered.

2. The course discipline and whether the course is for initial or refresher training.

3. The language in which the course will be taught. For purposes of this chapter, courses taught in different languages are considered different courses, and each shall independently meet the accreditation requirements of this chapter. For each course taught in a language other than English, the application shall include a copy of all course materials translated to English.

4. Whether the course will be offered online or in a traditional classroom setting. In addition to the other requirements of this chapter, online initial training courses shall meet the hands-on training requirements pursuant to 40 CFR 745.225 and 18VAC15-50-130 or 18VAC15-50-140, as applicable.

C. Specific information regarding the examination, including:

1. Examination content, length, format, and passing score;

2. Examination administration and integrity; and

3. A copy of the course examination that complies with 18VAC15-50-200 and the corresponding examination answer sheet.

D. The names and qualifications, including resumes, education, training, experience, and relevant certifications of each instructor.

E. A copy of all training course materials including student manuals, instructor manuals, training aids, and handouts.

F. The course agenda that includes the topics to be covered, the time allotted for each course topic, and the allotted time for hands-on training in compliance with 40 CFR 745.225 and 18VAC15-50-130 or 18VAC15-50-140, as applicable.

G. A description of the facilities and equipment to be used for lecture and hands-on training.

H. A description of the activities and procedures that will be used for conducting the assessment of hands-on skills for the course.

I. An example of a certificate of completion that will be issued to students who successfully complete the course. The certificate of completion shall contain the information listed in 18VAC15-50-200.

J. A proposed course, if determined, for auditing purposes.]

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18VAC15-50-130. [~~Procedures for renewal Renovator initial training course requirements~~]

~~[A. The department shall mail a renewal notice to the licensee or accredited renovation training provider at the last known address. The notice shall outline the procedures for renewal and the renewal fee amount. Failure to receive the notice shall not relieve the licensee or accredited training provider of the obligation to renew in a timely fashion.~~

~~B. Prior to the expiration date shown on the license, the renovator or dust sampling technician desiring to renew the license shall return to the board the renewal notice, renewal fee, and as appropriate, a copy of the most recent refresher training certificate.~~

~~C. Prior to the expiration date shown on the license, the renovation contractor desiring to renew the license shall return to the board the renewal notice and the renewal fee.~~

~~D. Prior to the expiration date shown on the approval letter, the accredited renovation training program desiring to renew the approval shall return to the board the renewal notice and the renewal fee. Documentation that the requirements in 18VAC15-50-140 have been met shall accompany the renewal notice and fee.~~

~~E. Should the licensee or accredited renovation training program fail to receive the renewal notice, a copy of the current license or accredited renovation training program approval letter may be substituted for the renewal notice.~~

~~F. By renewing the license, the licensee is certifying his continued compliance with the general standards of practice and conduct in Part V (18VAC15-50-150 et seq.) of this chapter.~~

~~G. Each license or accredited training program approval that is not renewed within 30 days after the expiration date on the license or accredited renovation training program approval letter shall be subject to the late renewal fee as established in 18VAC15-50-110.~~

~~H. Each license or accredited training program approval that is not renewed within six months after the expiration date on the license or accredited renovation training program approval letter shall not be renewed. The licensee or approved accredited renovation training program shall apply as a new applicant and meet all entry requirements as established by this chapter.~~

~~A. The renovator course shall last a minimum of eight training hours, with a minimum of two hours devoted to hands-on training. Hands-on training shall cover renovation methods that minimize the creation of dust and lead-based paint hazards, interior and exterior containment and cleanup methods, and post-renovation cleaning verification.~~

~~B. The training course shall include, at a minimum, the following course topics:~~

- ~~1. Role and responsibility of a renovator.~~
- ~~2. Background information on lead and its adverse health effects.~~
- ~~3. Background information on EPA, HUD, OSHA, and other federal, state, and local regulations and guidance that pertains to lead-based paint and renovation activities.~~
- ~~4. Procedures for using acceptable test kits to determine whether paint is lead-based paint.~~
- ~~5. Procedures for collecting a paint chip sample and sending it to an NLLAP recognized laboratory for analysis.~~
- ~~6. Renovation methods to minimize the creation of dust and lead-based paint hazards.~~
- ~~7. Interior and exterior containment and cleanup methods.~~
- ~~8. Methods to ensure that the renovation has been properly completed, including cleaning verification and clearance testing.~~
- ~~9. Waste handling and disposal.~~
- ~~10. Providing on-the-job training to other workers.~~
- ~~11. Record preparation.]~~

18VAC15-50-140. [~~Qualifications for renewal Dust sampling technician initial training course requirements~~]

~~[A. Individuals:~~

- ~~1. Licensees desiring to maintain an individual dust sampling technician or renovator license shall satisfactorily complete the refresher training program established by this chapter no later than the last day of the month that is 60 months after the date of completion of the initial training program or the most recent refresher training program.~~
- ~~2. Satisfactory completion of initial or refresher training shall be documented by a copy of a certificate of completion from a board approved or EPA approved training program.~~
- ~~3. Refresher training shall be specific to the discipline of the license being renewed.~~
- ~~4. The board shall renew an individual dust sampling technician or renovator license for an additional 12 months upon receipt of:
 - ~~a. A renewal application in accordance with 18VAC15-50-130;~~
 - ~~b. A fee in accordance with 18VAC15-50-110; and~~
 - ~~c. As appropriate, a copy of a training certificate documenting compliance with subdivision 1 of this subsection.~~~~
- ~~5. Submission of the renewal application and renewal fee to the board shall constitute a certification that the licensee is in full compliance with the board's regulations.~~

~~B. Renovation contractor. The board shall renew a renovation contractor license for an additional 12 months upon receipt of a renewal application and the renewal fee, pursuant to 18VAC15-50-130 and 18VAC15-50-110. Submission of the renewal application and renewal fee to the board shall constitute a certification that the licensee is in full compliance with the board's regulations.~~

~~C. Accredited renovation training programs:~~

~~1. Accredited renovation training providers desiring to maintain approval of the accredited renovation training program shall submit the following no later than 24 months after the date of initial approval and not less than once every 24 months thereafter:~~

~~a. The training provider's business name, physical address, mailing address, and telephone number.~~

~~b. A statement signed by the training program manager that certifies:~~

~~(1) The course materials for each course meet the requirements of Part VII (18VAC15-50-300 et seq.) of this chapter;~~

~~(2) The training manager and principle instructors meet the qualifications listed in 18VAC15-50-210;~~

~~(3) The training manager complies at all times with all requirements of this chapter;~~

~~(4) The quality control plan meets the requirements noted in 18VAC15-50-280; and~~

~~(5) The recordkeeping requirements established by this chapter will be followed.~~

~~2. Submission of the renewal application and renewal fee to the board shall constitute a certification that the accredited renovation training provider is in full compliance with the board's regulations.~~

~~3. An audit by a board representative may be performed to verify the certified statements and the contents of the application before reaccreditation is granted.~~

~~4. Accredited renovation training programs determined by the board to have met the renewal requirements shall be issued an approval for an additional 24 months.~~

~~A. The dust sampling technician course shall last a minimum of eight training hours, with a minimum of two hours devoted to hands-on training. Hands-on training shall cover dust sampling methodologies.~~

~~B. The training course shall include, at a minimum, the following course topics:~~

~~1. Role and responsibility of a dust sampling technician.~~

~~2. Background information on lead and its adverse health effects.~~

~~3. Background information on federal, state, and local regulations and guidance that pertains to renovation activities.~~

~~4. Dust sampling methodologies.~~

~~5. Clearance standards and testing.~~

~~6. Report preparation.]~~

~~**18VAC15-50-150. [Grounds for denial of application, denial of renewal, or disciplinary action Refresher training criteria]**~~

~~[Part V~~

~~General Standards of Practice and Conduct~~

~~A. The board shall have the authority to (i) fine any licensee or accredited renovation training provider, training manager, or principal instructor; (ii) deny renewal; and (iii) suspend, revoke, or deny application for any license or approval as an accredited renovation training program, accredited renovation training provider, training manager, or principal instructor provided for under Chapter 5 (§ 54.1-500 et seq.) of Title 54.1 of the Code of Virginia for:~~

~~1. Violating or inducing another person to violate any of the provisions of Chapter 1 (§ 54.1-100 et seq.), 2 (§ 54.1-200 et seq.), 3 (§ 54.1-300 et seq.), or 5 of Title 54.1 of the Code of Virginia, or any of the provisions of this chapter.~~

~~2. Obtaining a license, approval as an accredited renovation training program, approval as an accredited renovation training provider, or approval as a training manager or principal instructor through fraudulent means.~~

~~3. Altering, falsifying, or issuing a fraudulent Virginia individual dust sampling technician or renovator license or training certificate.~~

~~4. Violating any provision of any federal, state, or local law or regulation pertaining to renovation activities.~~

~~5. Having been found guilty by the board, another regulatory authority, or a court of any misrepresentation in the course of performing his renovator, dust sampling technician, renovation contractor, or training provider duties related to his license or approval.~~

~~6. Subject to the provisions of § 54.1-204 of the Code of Virginia, having been convicted or found guilty, regardless of adjudication in any jurisdiction of the United States, of any felony or of any misdemeanor involving lying, cheating, or stealing or of any violation while engaged in an environmental remediation activity that resulted in the significant harm or the imminent and substantial threat of significant harm to human health or the environment, there being no appeal pending therefrom or the time for appeal having elapsed. Any plea of nolo contendere shall be considered a conviction for the purposes of this chapter. A certified copy of the final order, decree, or case decision by a court or regulatory agency with lawful authority to issue~~

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~~such order, decree, or case decision shall be admissible as prima facie evidence of such conviction or discipline.~~

~~7. Failing to notify the board in writing within 30 days of pleading guilty or nolo contendere or being convicted or found guilty of any felony or of any misdemeanor involving lying, cheating, or stealing or of any violation while engaged in an environmental remediation activity that resulted in the significant harm or the imminent threat of significant harm to human health or the environment.~~

~~8. Negligence or a continued pattern of incompetence in the practice of the discipline in which the license is held.~~

~~9. Failing or neglecting to send any information or documentation that was requested by the board or its representative.~~

~~10. Failing to notify the board in writing within 30 days after any change in address or name.~~

~~11. Acting as or being an ostensible licensee for undisclosed persons who do or will control or direct, directly or indirectly, the operations of the licensee's business.~~

~~12. Refusing to allow state or federal representatives access to any area of a renovation, repair, and painting site for the purpose of lawful compliance inspections.~~

~~13. Any unlawful act or violation of any provision of Chapter 5 (§ 54.1-500 et seq.) of Title 54.1 of the Code of Virginia or of the regulations of the board by any renovator may be cause for disciplinary action against the renovation contractor for whom the renovator works, either as an employee or subcontractor, if it appears to the satisfaction of the board that the renovation contractor knew or should have known of the unlawful act or violation.~~

~~B. Any person whose license, approval as an accredited renovation training program, approval as an accredited renovation training provider, or approval as a training manager or principal instructor is revoked or withdrawn under this section shall not be eligible to reapply for a period of one year from the effective date of the final order of revocation or withdrawal of approval. The person shall meet all education, experience, training, and documentation requirements, complete the application, and submit the required fee for consideration as a new applicant.~~

~~C. The board shall conduct disciplinary procedures in accordance with §§ 2.2-4019 and 2.2-4021 of the Code of Virginia.~~

~~A. Renovator refresher training courses shall last a minimum of four hours and review the curriculum topics of the full-length course specified in 18VAC15-50-130.~~

~~B. Dust sampling technician refresher training courses shall last a minimum of four hours and review the curriculum topics of the full-length course specified in 18VAC15-50-140.~~

~~C. Renovator and dust sampling technician refresher courses shall also address:~~

~~1. An overview of current safety practices relating to lead-based paint in general, as well as specific information pertaining to the appropriate discipline.~~

~~2. Current laws and regulations relating to lead-based paint in general, as well as specific information pertaining to the appropriate discipline.~~

~~3. Current technologies relating to lead-based paint in general, as well as specific information pertaining to the appropriate discipline.]~~

18VAC15-50-160. [Maintenance of license Training manager qualifications]

~~[A. Each regulant shall report all changes of address to the board in writing within 30 calendar days of the change and shall return the license or accredited renovation training course approval to the board. A physical address is required for each license. A post office box is acceptable only when a physical address is also provided. If the regulant holds more than one license, the regulant shall inform the board of all licenses affected by the address change.~~

~~B. Each regulant shall operate under the name in which the license is issued. Regulants shall report any change of individual or business name to the board in writing within 30 calendar days of the name change and shall return the license or accredited renovation training course approval to the board. If the regulant holds more than one license, the regulant shall inform the board of all licenses affected by the name change.~~

~~C. No license or accredited renovation training course approval issued by the board shall be assigned or otherwise transferred. Any attempt to assign or otherwise transfer a license shall make the license void.~~

~~D. Each regulant shall notify the board of changes in the firm within 30 days of the change. Such changes include, but are not limited to, the:~~

~~1. Cessation of the business or the voluntary termination of a sole proprietorship or general partnership;~~

~~2. Death of a sole proprietor or the death or withdrawal of a general partner in a general partnership or the managing partner in a limited partnership; or~~

~~3. Formation or dissolution of a corporation, limited liability company, association, or any other business entity recognized under the laws of the Commonwealth of Virginia.~~

~~E. Each regulant shall keep his board approved training and license current.~~

~~The accredited renovation training program shall certify that the training manager is an employee of the accredited~~

renovation training program and provide documentation that the training manager meets the following requirements:

1. Has at least two years of experience, education, or training in teaching workers or adults or has a bachelor's or graduate degree in building construction technology, engineering, industrial hygiene, safety, public health, education, business administration, or program management or a related field or has two years of experience in managing a training program specializing in environmental hazards; and

2. Has demonstrated experience, education, or training in the construction industry, including lead or asbestos abatement, painting, carpentry, renovation, remodeling, occupational safety and health, or industrial hygiene.]

18VAC15-50-170. [Recordkeeping and reporting requirements for renovation contractors Principal instructor qualifications]

~~[All licensed renovation contractors shall comply with the information distribution, records retention, and reporting requirements related to renovation activities, in accordance with 40 CFR Part 745.~~

The accredited renovation training program shall certify that the qualified principal instructor is an employee of or contracted to the accredited renovation training program and provide documentation that the principal instructor meets the following requirements:

1. Has demonstrated experience, education, or training in teaching workers and adults;

2. Has successfully completed at least eight hours of any EPA-approved or board-approved lead-specific training of lead-based paint activities courses or eight hours of any EPA-approved or board-approved lead-specific training of renovator or dust sampling technician courses; and

3. Has demonstrated experience, education, or training in lead or asbestos abatement, painting, carpentry, renovation, remodeling, occupational safety and health, or industrial hygiene.]

18VAC15-50-180. [Notice of adverse action Qualifications for a training manager serving as a principal instructor]

~~[A. Regulators shall notify the board of the following actions:~~

~~1. Any disciplinary action taken by another jurisdiction, board, or administrative body of competent jurisdiction, including but not limited to any reprimand, revocation, suspension, or denial, monetary penalty, or requirement for remedial education or other corrective action taken on any accredited renovation training course approval, license, certification, registration, or authorization of the regulant.~~

~~2. Any voluntary surrendering of a license, certificate, registration, authorization, or accredited renovation training~~

~~course approval done in connection with an open disciplinary action in another jurisdiction.~~

~~3. Any conviction or finding of guilt, regardless of adjudication or deferred adjudication, of any felony or misdemeanor. Any plea of nolo contendere shall be considered a conviction for the purpose of this section.~~

~~B. All notices shall be made to the board in writing within 30 days of the action. A copy of the order or other supporting documentation shall accompany the notice. The record of conviction, finding, or case decision shall be considered prima facie evidence of a conviction or finding of guilt.~~

Any training manager who intends to also serve as a principal instructor shall meet the requirements specified in 18VAC15-50-170 and prior to instructing, provide documentation to the board.]

18VAC15-50-190. [Response to inquiry and provision of records Training manager and principal instructor documentation]

~~[A. A regulant shall promptly respond to the board or any of its agents regarding a complaint.~~

~~B. The regulant shall promptly produce to the board or any of its agents any document, book, or record, or copy thereof, in which the regulant was involved, or that is in the regulant's possession or control concerning a transaction covered by this chapter, or for which the regulant is required to maintain records.~~

~~C. A regulant shall not provide a false, misleading, or incomplete response to the board or any of its agents seeking information in the investigation of a complaint filed with the board.~~

The following documents shall be recognized by the board as proof that the training managers and principal instructors meet the relevant education, work experience, and training requirements specifically listed in 18VAC15-50-160 and 18VAC15-50-170. All documentation shall be reviewed and if acceptable, be approved by the board prior to the principal instructor teaching an approved training course or a training manager fulfilling his responsibilities pursuant to 18VAC15-50-370.

1. Official academic transcripts or diploma as proof of meeting the education requirements.

2. Resumes, letters of reference, or documentation of work experience as proof of meeting the experience requirements.

3. Certificates of completion from lead-specific training courses as proof of meeting the training requirements.]

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18VAC15-50-200. [~~Changes to an accredited renovation training program or provider Course examination for approved initial training courses~~].

[~~Part VI~~

Standards of Practice and Conduct for Accredited Renovation Training Programs

A. Substantial changes made in any of the course items, after the course has been approved, shall be submitted to the board for review and approval prior to the continuation of the training course. The items include, but are not limited to:

1. Course curriculum.
2. Course examination.
3. Course materials.
4. Training manager and principal instructor or instructors.
5. Certificate of completion.

B. When an accredited renovation training provider offering an accredited renovation training program has a change of ownership, the new owner shall make written notification to the board within 30 days of the change of ownership. The new owner shall apply anew.

C. The accredited renovation training provider shall notify the board 30 days prior to relocating its business or transferring the records.

A. Upon completion of each approved initial training course, the accredited renovation training program shall conduct a monitored, written course examination and a hands-on skills assessment, or as an alternative, a proficiency examination. To pass the course, each individual shall successfully complete the hands-on skills assessment and receive a passing score on the course examination, or successfully complete a proficiency examination. Refresher training programs are not required to conduct a hands-on skills assessment.

B. The course examination, an evaluation of the overall effectiveness of the training, shall test the trainee's knowledge and retention of the course topics covered.

C. The passing score on the course examination shall be 70%.

D. The hands-on skills assessment, an evaluation of the effectiveness of the hands-on training, shall test the ability of the trainee to demonstrate satisfactory performance of work practices and procedures established in Part IX of this chapter, as well as any other skills demonstrated in the course.

E. The use of a proficiency examination in lieu of a hands-on assessment and course examination may be considered by the training provider. An accredited renovation training program that offers a proficiency examination shall assure that the examination consists primarily of an evaluation of the effectiveness and reliability of a student's ability to conduct a particular renovation activity. The proficiency examination

shall also cover all topics and skills addressed in the discipline-specific course.

F. For a training program to make use of a proficiency-based course, the proficiency-based course must be approved by the board in the same manner as approval for any other course, including fees.]

18VAC15-50-210. [~~Qualifications of the training manager and principal instructor Course certificates of completion~~].

[A. The training program shall employ a training manager who:

1. Has at least two years of experience, education, or training in teaching workers or adults; has a bachelor's or graduate degree in building construction technology, engineering, industrial hygiene, safety, public health, education, business administration, or program management or a related field; or has two years of experience in managing a training program specializing in environmental hazards.

2. Has demonstrated experience, education, or training in the construction industry, including lead or asbestos abatement, painting, carpentry, renovation, remodeling, occupational safety and health, or industrial hygiene.

B. The training program shall employ a qualified principal instructor, designated by the training manager, for each course who:

1. Has demonstrated experience, education, or training in teaching workers and adults.

2. Has successfully completed at least 16 hours of any EPA-accredited or board-approved lead-specific training for instructors of lead-based paint activities courses or eight hours of any EPA-accredited or board-approved lead-specific training for instructors of renovator or dust sampling technician courses.

3. Has demonstrated experience, education, or training in lead or asbestos abatement, painting, carpentry, renovation, remodeling, occupational safety and health, or industrial hygiene.

C. Documentation of all principal instructor qualifications shall be reviewed and approved by the board prior to the principal instructor teaching in an accredited renovation program.

The accredited renovation training program shall issue unique course certificates of completion to each individual who passes the training course. The course certificate of completion shall include:

1. The board-assigned approved training course number.
2. The name, a unique identification number, and address of the individual.

- 3. The name, discipline, and type of the particular course that the individual completed.
- 4. The dates of course completion and examination passage.
- 5. The expiration date. Certificates of completion shall expire 60 months from the date of course completion.
- 6. The name, address, and telephone number of the training program.
- 7. The name and signature of the training manager and principal instructor.
- 8. The language in which the course was taught.
- 9. A photograph of the individual.]

18VAC15-50-220. [~~Responsibilities of the training manager~~ Acceptance of certificates of completion; retroactive approval prohibited]

[~~A. The training manager shall be responsible for ensuring that the training program complies at all times with the requirements of this section. The training manager is also responsible for:~~

- 1. ~~Maintaining the validity and integrity of the hands on skills assessment or proficiency test to ensure that it accurately evaluates the trainees' performance of the work practices and procedures associated with the course topics.~~
- 2. ~~Maintaining the validity and integrity of the course test to ensure that it accurately evaluates the trainees' knowledge and retention of the course topics.~~

~~B. The training manager shall designate a principal instructor for each course offered. The principal instructor shall be responsible for the organization of the course and oversight of the teaching of all course material.~~

~~C. The training manager may designate guest instructors, as needed, to provide instruction specific to the lecture, hands on activities, or work practice components of a course.~~

~~D. Any training manager who intends to also serve as a principle instructor shall meet the requirements of subsection B of 18VAC15-50-210 and, prior to instructing, provide documentation to the board.~~

An accredited renovation training program and its training course must have been approved by the board or EPA before its certificates of completion will be accepted by the board as evidence that an individual has completed an approved training course. Retroactive approval of training courses is not permitted. A certificate of completion submitted by an individual seeking to obtain or maintain licensure will not be accepted if such training course was completed before board or EPA-approval.]

18VAC15-50-230. [~~Training manager and principal instructor documentation~~ Audit of accredited renovation training program training course]

[The following documents shall be recognized by the board as proof that the training managers and principal instructors

meet the relevant education, work experience, and training requirements specifically listed in 18VAC15-50-210:

- 1. ~~Official academic transcripts or diploma, as proof of meeting the education requirements.~~
- 2. ~~Resumes, letters of reference, or documentation of work experience, as proof of meeting the experience requirements.~~
- 3. ~~Certificates from train the trainer courses and lead-specific training courses, as proof of meeting the training requirements.~~

A. After the application has been found to be complete and in compliance with this chapter, an on-site audit of the training program shall be conducted.

- 1. If the on-site audit of the training program reveals compliance with this chapter, then the board shall grant approval.
- 2. If the on-site audit of the training program reveals a deficiency in compliance with this chapter, then the board shall notify the training program of the deficiency and give a timeframe for correction of the deficiency. The board or its agent shall then conduct an additional on-site audit. Additional or continued deficiencies may result in denial of the application.

B. EPA accredited courses approved on or before (insert effective date of chapter) are exempt from the audit requirement of subsection A of this section.]

**Part V
Fees**

18VAC15-50-240. [~~Training facilities~~ General fee requirements]

[The training program shall provide adequate facilities for the delivery of the lecture, course test, hands on training, and assessment activities. The training program shall provide training equipment that reflects current work practices and maintaining or updating the equipment or facilities, as needed.

All fees are nonrefundable and shall not be prorated. The date on which the fee is received by the department or its agent will determine whether the fee is on time. Checks or money orders shall be made payable to the Treasurer of Virginia.]

18VAC15-50-250. [~~Length of training courses~~ Application fees]

<u>[Fee Type</u>	<u>Fee Amount</u>
<u>Individuals</u>	
<u>Application for dust sampling technician license</u>	<u>\$45.00</u>
<u>Application for renovator license</u>	<u>\$45.00</u>

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<u>Contractors (Firm)</u>	
<u>Application for renovation contractor license</u>	<u>\$60.00</u>
<u>Accredited Renovation Training Programs</u>	
<u>Initial application for accredited renovation training program</u>	<u>\$500.00</u>
<u>Application for additional training course approval</u>	<u>\$250.00</u>
<u>Application for training programs approved by EPA before (insert the effective date of this chapter)</u>	<u>\$25.00</u>

A. Training courses shall meet the following training hour requirements:

1. The dust sampling technician initial training course shall last a minimum of eight training hours, with a minimum of two hours devoted to hands on training activities. Hands on training activities shall cover dust sampling methodologies.

2. The renovator initial training course shall last a minimum of eight training hours, with a minimum of two hours devoted to hands on training activities. Hands on training activities shall cover renovation methods that minimize the creation of dust and lead based paint hazards, interior and exterior containment and cleanup methods, and post-renovation cleaning verification.

3. Refresher training courses shall last a minimum of four hours.

B. In no case shall actual training exceed eight hours during a 24 hour period.

The fee amount provided in the fee table shall be submitted with the application indicated.

<u>Fee Type</u>	<u>Fee Amount</u>
<u>Individuals</u>	
<u>Application for dust sampling technician license</u>	<u>\$45.00</u>
<u>Application for renovator license</u>	<u>\$45.00</u>
<u>Contractors (Firm)</u>	
<u>Application for renovation contractor license</u>	<u>\$60.00</u>
<u>Accredited Renovation Training Programs</u>	
<u>Initial application for accredited renovation training program</u>	<u>\$500.00</u>

<u>Application for additional training course approval</u>	<u>\$250.00</u>
<u>Application for training programs approved by EPA before (insert the effective date of this chapter)]</u>	<u>\$25.00</u>

18VAC15-50-260. [Course examination Renewal fees].

[A. Upon completion of each initial training course, the accredited renovation training program shall conduct a monitored, written course test and a hands on skills assessment or, as an alternative, a proficiency test. To pass the course, each individual shall (i) successfully complete the hands on skills assessment and receive a passing score on the course test or (ii) successfully complete a proficiency test. Refresher training programs are not required to conduct a hands on skills assessment.

B. The course test, an evaluation of the overall effectiveness of the training, shall test the trainees' knowledge and retention of the course topics covered.

C. The passing score on the course test shall be 70%.

D. The hands on skills assessment, an evaluation of the effectiveness of the hands on training, shall test the ability of the trainees to demonstrate satisfactory performance of work practices and procedures established in Part VIII (18VAC15-50-330 et seq.) of this chapter, as well as any other skills demonstrated in the course.

E. The use of a proficiency test in lieu of a hands on assessment and course test may be considered by the training provider. An accredited renovation training program that offers a proficiency test shall assure that the test consists primarily of an evaluation of the effectiveness and reliability of a student's ability to conduct a particular renovation activity. The proficiency test shall also cover all topics and skills addressed in the discipline specific course. For a training program to make use of a proficiency based course, the proficiency based course must be approved by the board in the same manner as approval for any other course, including fees.

The fee amount in the fee table shall be submitted with the renewal application indicated.

<u>Fee Type</u>	<u>Fee Amount</u>
<u>Individuals</u>	
<u>Renewal of dust sampling technician license</u>	<u>\$45.00</u>
<u>Late renewal of dust sampling technician license (includes a \$35.00 late penalty fee in addition to the \$45.00 renewal fee)</u>	<u>\$80.00</u>
<u>Renewal of renovator license</u>	<u>\$45.00</u>

Late renewal of renovator license (includes a \$35.00 late penalty fee in addition to the \$45.00 renewal fee)	\$80.00
Contractors (Firm)	
Renewal of renovation contractor license	\$60.00
Late renewal of renovation contractor license (includes a \$35.00 late penalty fee in addition to the \$60.00 renewal fee)	\$95.00
Accredited Renovation Training Programs	
Renewal for accredited renovation training program	\$125.00
Late renewal for accredited renovation training program (includes a \$35.00 late penalty fee in addition to the \$125.00 renewal fee)	\$160.00]

Part VI
Renewal

18VAC15-50-270. [~~Course completion certificates~~ Renewal required].

~~[The accredited renovation training program shall issue unique course completion certificates to each individual who passes the training course. The course completion certificate shall include:~~

- ~~1. A unique certificate number.~~
- ~~2. The name, a unique identification number, and address of the individual.~~
- ~~3. The name of the particular course that the individual completed.~~
- ~~4. The dates of course completion and test passage.~~
- ~~5. The expiration date. Training certificates shall expire 60 months from the date of course completion.~~
- ~~6. The name, address, and telephone number of the training program.~~
- ~~7. The name and signature of the training manager and principal instructor.~~
- ~~8. The language in which the course was taught.~~
- ~~9. A photograph of the individual.~~

A. Individual dust sampling technician, renovator, and renovation contractor licenses shall expire 12 months from the last day of the month in which the license was issued.

B. Accredited renovation training programs shall expire 24 months from the last day of the month in which the board granted approval.

C. A fee shall be required for renewal as specified in 18VAC15-50-260.]

18VAC15-50-280. [~~Quality control plan~~ Procedures for renewal].

~~[The training manager shall develop and implement a quality control plan. The plan shall be used to maintain and improve the quality of the training program over time and shall contain at least the following elements:~~

- ~~1. Procedures for periodic revision of training materials and the course test to reflect innovations in the field.~~
 - ~~2. Procedures for the training manager's annual review of the principal instructor's competency.~~
- ~~competency.~~

A. The department shall mail a renewal notice to the regulant at the last known mailing address of record. The notice shall outline the procedures for renewal and the renewal fee amount. Failure to receive the notice shall not relieve the regulant of the obligation to renew in a timely fashion.

B. Prior to the expiration date shown on the license, the renovator or dust sampling technician desiring to renew the license shall return to the board the renewal notice, renewal fee, and a copy of the most recent applicable approved refresher training certificate of completion in accordance with 18VAC15-50-290.

C. Prior to the expiration date shown on the license, the renovation contractor desiring to renew the license shall return to the board the renewal notice and the renewal fee.

D. Prior to the expiration date shown on the approval letter, the accredited renovation training program desiring to renew the approval of approved training courses shall return to the board the renewal notice and the renewal fee. Documentation that the requirements in 18VAC15-50-290 have been met shall accompany the renewal notice and fee.

E. Should the regulant fail to receive the renewal notice, a copy of the current license or accredited renovation training program approval letter may be substituted for the renewal notice.

F. By renewing the license or accreditation, the regulant is certifying the regulant's continued compliance with the Standards of Practice and Conduct, as applicable to the license or accreditation being renewed, in this chapter. Submission of the renewal application and renewal fee to the board shall constitute a certification that the regulant is in full compliance with this chapter.

G. By renewing an accredited renovation training program, the training program certifies continued compliance with the provisions of this chapter of each training course approved for the accredited renovation training program.

Regulations

H. Each license or accredited renovation training program that is not renewed within 30 days after the expiration date on the license or accredited renovation training program shall be subject to the late renewal fee as established in 18VAC15-50-260.

I. Each license or accredited renovation training program that is not renewed within 12 months after the expiration date on the license or accredited renovation training program shall not be renewed. The individual, firm, or renovation training program shall apply as a new applicant and meet all entry requirements in effect at the time of submittal of the new application.]

18VAC15-50-290. [Training program recordkeeping and provision of records to the board Qualifications for individual license renewal]

[A. Each accredited renovation training program shall comply with the training program recordkeeping requirements in accordance with 40 CFR Part 745 with the exception that the accredited training program shall retain records at the address specified on the training program application or as updated with the board for a minimum of five years and six months.

B. The training manager shall notify the board at least 48 hours prior to the start date of any dust sampling technician or renovator course.

C. The training manager shall provide an updated notification when dust sampling technician or renovator courses will begin on a date other than the start date specified in the original notification as follows:

1. For dust sampling technician or renovator courses beginning before the start date provided to the board, an updated notification must be received by the board at least 48 hours before the new start date.

2. For dust sampling technician or renovator courses beginning after the start date provided to the board, an updated notification must be received by the board at least 48 hours before the new start date provided to the board.

D. The training manager shall update the board of any change in location of the dust sampling technician or renovator courses at least 48 hours prior to the start date provided to the board.

E. Barring situations or circumstances beyond the control of the training provider, the training manager shall update the board regarding the cancellation of any dust sampling technician or renovator courses at least two business days prior to the start date provided to the board. For the purposes of this section, a business day shall mean Monday through Friday with the exception of holidays, in accordance with § 2.2-3300 of the Code of Virginia.

F. Each notification, including updates, shall include the following:

1. Notification type (original, revision, cancellation);

2. Training program name, Virginia accreditation number, address, and telephone number;

3. Course discipline, type (initial or refresher), and the language in which instruction will be given;

4. Dates and times of training;

5. Training locations and corresponding addresses and telephone numbers;

6. Principal instructor's name;

7. Training manager's name;

G. The training program participant list shall be completed by the training provider and training program participants daily.

H. The training program participant list shall be retained by the training provider for a minimum of five years and six months following the date of completion of the dust sampling technician or renovator courses.

I. The training manager shall provide the board the accredited renovation training program participant list no later than two business days following completion of the dust sampling technician or renovator courses.

J. The renovation training program participant list shall include the following:

1. Training program name, Virginia accreditation number, address, and telephone number;

2. Course discipline and type (initial or refresher);

3. Dates of training;

4. Each participant's name, address, social security number or Virginia DMV control number, course completion certificate number, and course test score;

5. Participant list type (original or revision);

6. Training manager's name;

K. Notification and training program participant lists shall be submitted electronically in the form prescribed by the department.

L. The training provider shall retain all examinations completed by training program participants for a minimum of five years and six months.

M. The board shall not recognize training certificates from approved training providers that fail to notify or fail to provide a training program participant list.

A. A licensee desiring to maintain an individual dust sampling technician or renovator license shall satisfactorily complete the approved refresher training course established by this chapter no later than the last day of the month that is 60 months after the date of completion of the approved initial training course or the most recent approved refresher training course.

B. Satisfactory completion of an approved initial or refresher training course shall be documented by a copy of a certificate of completion from an accredited renovation training program.

C. Refresher training shall be specific to the discipline of the license being renewed.]

Part VII

[Training Course Curricula Requirements General Standards of Practice and Conduct]

18VAC15-50-300. [~~Renovator initial training course requirements~~ Grounds for denial of application, denial of renewal, or disciplinary action]

[~~A. The renovator course shall last a minimum of eight training hours, with a minimum of two hours devoted to hands-on training. Hands on training shall cover renovation methods that minimize the creation of dust and lead based paint hazards, interior and exterior containment and cleanup methods, and post renovation cleaning verification.~~

B. The training course shall include, at a minimum, the following course topics:

1. Role and responsibility of a renovator.
2. Background information on lead and its adverse health effects.
3. Background information on EPA, HUD, OSHA, and other federal, state, and local regulations and guidance that pertains to lead based paint and renovation activities.
4. Procedures for using acceptable test kits to determine whether paint is lead based paint.
5. Renovation methods to minimize the creation of dust and lead based paint hazards.
6. Interior and exterior containment and cleanup methods.
7. Methods to ensure that the renovation has been properly completed, including cleaning verification and clearance testing.
8. Waste handling and disposal.
9. Providing on the job training to other workers.
10. Record preparation.

A. The board shall have the authority to fine any licensee or accredited renovation training provider, to deny any application for a license or approval as an accredited renovation training program or any renewal, to suspend or revoke any license or approval as an accredited renovation training program, and to place a regulant on probation, which may include successful completion of remedial education as provided for under Chapter 5 (§ 54.1-500 et seq.) of Title 54.1 of the Code of Virginia for:

1. Violating or inducing another person to violate any of the provisions of Chapter 1 (§ 54.1-100 et seq.), 2 (§ 54.1-200

et seq.), 3 (§ 54.1-300 et seq.), or 5 (§ 54.1-500 et seq.) of Title 54.1 of the Code of Virginia, or any of the provisions of this chapter.

2. Willful violation of standards established by EPA, OSHA, the Department of Labor and Industry, or the Divisions of Air Pollution Control and Waste Management of the Department of Environmental Quality in accordance with § 54.1-517 of the Code of Virginia.

3. Obtaining a license, approval as an accredited renovation training program, or training course approval through fraudulent means.

4. Altering, falsifying, or issuing a fraudulent Virginia dust sampling technician renovator, or renovation contractor license, accredited renovation training program approval, or certificate of completion.

5. Violating any provision of any federal, state, or local law or regulation pertaining to renovation activities.

6. Having been convicted or found guilty in any jurisdiction of any misdemeanor within the last five years or any felony. Any plea of nolo contendere shall be considered a conviction for the purpose of this subsection. The record of a conviction certified or authenticated in such form as to be admissible in evidence under the laws of the jurisdiction where convicted shall be admissible as prima facie evidence of such guilt. The board will consider any conviction in accordance with § 54.1-204 of the Code of Virginia.

7. Negligence or a continued pattern of incompetence in the practice of the discipline in which the license is held.

8. Failing or neglecting to respond to the board or its agents in accordance with 18VAC15-50-340.

9. Failing to report a change pursuant to 18VAC15-50-310.

10. A regulant having been convicted, found guilty, or disciplined in any jurisdiction of any offense or violation enumerated in 18VAC15-50-330.

11. Failing to inform the board in writing within 30 days that the regulant was convicted, found guilty, or disciplined in any jurisdiction of any offense or violation enumerated in 18VAC15-50-330.

12. Acting as or being an ostensible licensee for undisclosed persons who do or will control or direct, directly or indirectly, the operations of the licensee's business.

13. Refusing to allow state or federal representatives access to any area of a renovation, repair and painting site for the purpose of lawful compliance inspections.

14. Failing to comply with 18VAC15-50-380, 18VAC15-50-390, 18VAC15-50-400, 18VAC15-50-410, 18VAC15-50-420, 18VAC15-50-430, and 18VAC15-50-460.

Regulations

15. Any unlawful act or violation of any provision of Chapter 5 (§ 54.1-500 et seq.) of Title 54.1 of the Code of Virginia or the regulations of the board of any renovator may be cause for disciplinary action against the renovation contractor for whom the renovator works, either as an employee or subcontractor, if it appears to the satisfaction of the board that the renovation contractor knew or should have known of the unlawful act or violation.

16. A renovation contractor's failure to ensure:

a. All individuals performing renovation activities on behalf of the firm are licensed renovators or have been trained by a licensed renovator as required under this chapter.

b. A licensed renovator is physically present at each work site while warning signs are being posted, work area containment is being established, and work area cleaning is being performed, and when not on site during renovation activities, the licensed renovator is readily available by telephone and able to be physically present at the work site in no more than two hours.

c. The work practice standards for renovation activities established in this chapter and standards established by EPA and OSHA shall be followed at all times during the performance of renovation activities.

d. Pre-renovation education requirements established in this chapter and standards established by EPA are followed at all times.

e. The recordkeeping requirements established in this chapter and standards established by EPA are followed at all times.

f. The firm is in compliance with all other occupational and professional licenses and standards as required by Virginia statute and local ordinance to transact the business of a renovation contractor.

B. In addition to disciplinary action that may be taken against an accredited renovation training program pursuant to subsection A of this section, the board shall have the authority to withdraw approval of any approved training course for any of the following reasons:

1. The approved training course being offered no longer meets the standards established by the board.

2. The training course, through an agent or otherwise, is advertised in a fraudulent or deceptive way.

3. The training manager, instructor, or designee of the provider falsifies any information relating to the application for approval of the training course or student records or fails to produce records required by 18VAC15-50-380.

4. A change in the information provided that results in noncompliance with this chapter.

5. Failure to comply with 18VAC15-50-360.

C. Any person whose license, approval as an accredited renovation training program, or training course approval is revoked or withdrawn under this section shall not be eligible to reapply for a period of one year from the effective date of the final order of revocation or withdrawal of approval. The person shall submit a new application and meet all education, experience, training, and documentation requirements in effect at the time the new application is submitted.

D. The board shall conduct disciplinary procedures in accordance with §§ 2.2-4019 and 2.2-4021 of the Administrative Process Act.]

18VAC15-50-310. [~~Dust sampling technician initial training course requirements~~ Maintenance of license].

[~~A. The dust sampling technician course shall last a minimum of eight training hours, with a minimum of two hours devoted to hands on training. Hands on training shall cover dust sampling methodologies.~~

~~B. The training course shall include, at a minimum, the following course topics:~~

~~1. Role and responsibility of a dust sampling technician.~~

~~2. Background information on lead and its adverse health effects.~~

~~3. Background information on federal, state, and local regulations and guidance that pertains to renovation activities.~~

~~4. Dust sampling methodologies.~~

~~5. Clearance standards and testing.~~

~~6. Report preparation.~~

A. Each regulant shall report all changes of address to the board in writing within 30 calendar days of the change and shall return the license or accredited renovation training program training course approval letter to the board. All address change submittals shall conform to the requirements of subdivision 3 of 18VAC15-50-60, 18VAC15-50-90 C, and 18VAC15-50-110 B, as applicable. If the regulant holds more than one license or approval, the regulant shall inform the board of all licenses and approvals affected by the address change.

B. Each regulant shall operate under the name in which the license is issued. Regulants shall report any change of individual or business name to the board in writing within 30 calendar days of the name change and shall return the license or accredited renovation training program training course approval letter to the board. If the regulant holds more than one license or approval, the regulant shall inform the board of all licenses and approvals affected by the name change.

C. No license or accredited renovation training program approval issued by the board shall be assigned or otherwise

transferred. Any attempt to assign or otherwise transfer a license or approval shall make the license or approval void.

D. Each regulant shall notify the board of changes in the firm within 30 days of the change. Such changes include the:

1. Cessation of the business or the voluntary termination of a sole proprietorship or general partnership;
2. Death of a sole proprietor or the death or withdrawal of a general partner in a general partnership or the managing partner in a limited partnership; or
3. Formation or dissolution of a corporation, limited liability company, association, or any other business entity recognized under the laws of the Commonwealth of Virginia.

E. Each regulant shall notify the board of any other changes in information previously submitted to the board pursuant to this chapter.]

18VAC15-50-320. [Refresher training criteria Recordkeeping and reporting requirements for renovation contractors]:

~~[A. Renovator refresher training courses shall last a minimum of four hours and review the curriculum topics of the full length course specified in 18VAC15-50-300.~~

~~B. Dust sampling technician refresher training courses shall last a minimum of four hours and review the curriculum topics of the full length course specified in 18VAC15-50-310.~~

C. Renovator and dust sampling technician refresher courses shall also address:

1. ~~An overview of current safety practices relating to lead-based paint in general, as well as specific information pertaining to the appropriate discipline.~~
2. ~~Current laws and regulations relating to lead-based paint in general, as well as specific information pertaining to the appropriate discipline.~~
3. ~~Current technologies relating to lead-based paint in general, as well as specific information pertaining to the appropriate discipline.~~

All licensed renovation contractors shall comply with the information distribution, records retention, and reporting requirements related to renovation activities, in accordance with 40 CFR 745.]

18VAC15-50-330. [General requirements Notice of adverse action]:

[Part VIII

Standards for Conducting Renovation Activities

~~A. All renovation activities performed for compensation in target housing and child occupied facilities shall be conducted in accordance with 40 CFR Part 745.~~

~~B. Persons licensed to conduct post renovation clearance procedures shall be independent of and have no financial interest in or association by employment, contract, or other agreement with the licensed firm that performs or preclears the renovation activity being cleared.~~

Regulants shall notify the board of the following actions:

A. Any disciplinary action taken by another jurisdiction, board, or administrative body of competent jurisdiction, including any reprimand, revocation, suspension or denial, monetary penalty, or requirement for remedial education or other corrective action taken on any accredited renovation training program, training course approval, license, certification, registration, or authorization of the regulant.

B. Any voluntary surrendering of a license, certificate, registration, authorization, or accredited renovation training program or training course approval done in connection with an open disciplinary action in another jurisdiction.

C. Any conviction or finding of guilt, regardless of adjudication or deferred adjudication, of any felony or misdemeanor. Any plea of nolo contendere shall be considered a conviction for the purpose of this section.

All notices shall be made to the board in writing within 30 days of the action. A copy of the order or other supporting documentation shall accompany the notice. The record of conviction, finding, or case decision shall be considered prima facie evidence of a conviction or finding of guilt.]

18VAC15-50-340. [Prerenovation education requirements Response to inquiry and provision of records]:

~~[All licensed renovation contractors shall comply with the information distribution requirement related to lead-based paint renovation activities in accordance with 40 CFR Part 745.~~

A. A regulant shall respond within 10 days to a request by the board or any of its agents regarding any complaint filed with the department.

B. Unless otherwise specified by the board, a regulant shall produce to the board or any of its agents within 10 days of the request any document, book, record, or copy thereof in which the regulant was involved or which is in the regulant's possession or control concerning a transaction covered by this chapter or for which the regulant is required to maintain records. The board may extend such timeframe upon a showing of extenuating circumstances prohibiting delivery within such 10-day period.

C. A regulant shall not provide a false, misleading, or incomplete response to the board or any of its agents seeking information in the investigation of a complaint filed with the board.

D. With the exception of the requirements of subsections A and B of this section, a regulant must respond to an inquiry by the board or its agent within 21 days.]

Regulations

18VAC15-50-350. [~~Renovation activities Audit of accredited renovation training programs and approved training courses~~].

[~~A. Only the following persons may conduct renovation activities for compensation in target housing and child-occupied facilities:~~

~~1. An individual licensed by the board as a renovator. The licensed renovator shall be the sole proprietor of a licensed renovation contractor firm or work for a licensed renovation contractor through employment, contract, or other agreement.~~

~~2. An individual trained by and under the supervision of a licensed renovator. The licensed renovator shall be the sole proprietor of a licensed renovation contractor firm or work for a licensed renovation contractor through employment, contract, or other agreement.~~

The board or its agents may at any time, with or without notice to the accredited renovation training program, training manager, or principal instructor, audit an accredited renovation training program and approved training course. This may include an audit conducted by attending a scheduled approved training course and an audit of the accredited renovation training program's records required pursuant to this chapter.]

Part VIII

Standards of Practice and Conduct for Accredited Renovation Training Programs

18VAC15-50-360. [~~Renovation contractor Changes to an accredited renovation training program or training course~~].

[~~All lead-based paint renovation activities performed for compensation in target housing and child-occupied facilities shall be conducted in accordance with 40 CFR Part 745.~~

A. Any changes to the accredited renovation training program as provided to the board in accordance with Part IV of this chapter, excluding changes specifically related to any approved training course offered by the accredited renovation training program, shall be submitted to the board within 30 days of the change. Changes to the approved training course shall be submitted in accordance with subsection C of this section.

B. The accredited renovation training program shall notify the board of the discontinuation of an approved training course offered by the accredited renovation training program. Such notification of discontinuation shall result in the withdrawal of approval of the training course. After the board provides notice to the accredited renovation training program, the board shall automatically withdraw the approval of an accredited renovation training program that has no approved training courses with the board. Such automatic withdrawal of accreditation may be suspended upon request and notification by the accredited renovation training program that it intends to

submit a training course for approval within 60 days after the board's notice of automatic withdrawal of approval. Failure to submit an accredited renovation training program training course approval application within this timeframe will result in the automatic withdrawal of the accredited renovation training program.

C. Substantial changes made to the approved training course as provided to the board in accordance with Part IV of this chapter after the course has been approved shall be submitted to the board for review and approval prior to the continuation of the training course. The items include:

1. Course curriculum.
2. Course examination.
3. Course materials.
4. Training manager and principal instructor or instructors.
5. Certificate of completion.

D. The accredited renovation training program shall notify the board in writing within 30 days of a change in ownership. The new owner shall apply as a new applicant and meet all entry requirements in effect at the time of application.

E. The accredited renovation training program shall notify the board 30 days prior to relocating its business or transferring the records.]

18VAC15-50-370. [~~Renovator Responsibilities of the training manager~~].

[~~A. All lead-based paint renovation activities performed for compensation in target housing and child-occupied facilities shall be conducted in accordance with 40 CFR Part 745.~~

~~B. The licensed renovator shall have with him at the work site a copy of his current initial course completion certificate or his current refresher course completion certificate and a copy of his valid Virginia renovator license.~~

A. The training manager shall be responsible for ensuring that the accredited renovation training program and any applicable approved training courses comply at all times with the requirements of this chapter. The training manager is also responsible for:

1. Maintaining the validity and integrity of the hands-on skills assessment or proficiency examination to ensure that it accurately evaluates a trainee's performance of the work practices and procedures associated with the course topics.
2. Maintaining the validity and integrity of the course examination to ensure that it accurately evaluates a trainee's knowledge and retention of the course topics.

B. The training manager shall, for each course offered, designate a principal instructor. The principal instructor shall be responsible for the organization of the course and oversight of the teaching of all course material.

C. The training manager may designate guest instructors, as needed, to provide instruction specific to the lecture, hands-on activities, or work practice portions of a course.]

18VAC15-50-380. [~~Dust sampling technician Accredited renovation training program recordkeeping and provision of records to the board]~~.

[~~A. A licensed dust sampling technician, a licensed lead inspector, or a licensed lead risk assessor may conduct dust sampling for renovation activities.~~

~~B. When performing dust clearance sampling, a licensed dust sampling technician, a licensed lead inspector, or a licensed lead risk assessor shall collect dust samples in accordance with 40 CFR Part 745, send the collected samples to a laboratory recognized by EPA under § 405(b) of the Toxic Substance Control Act (15 USC § 2685(b)), and compare the results to the clearance levels in accordance with 40 CFR Part 745.~~

~~C. The licensed dust sampling technician shall complete a written clearance report that includes laboratory results. A copy of the clearance report shall be provided to the person with whom the dust sampling technician entered into a contract.~~

~~D. The licensed dust sampling technician shall have with him at the work site a copy of his current initial course completion certificate or his current refresher course completion certificate and a copy of his valid Virginia dust sampling technician license.~~

A. Each accredited renovation training program shall comply with the training program recordkeeping requirements in 40 CFR 745 with the exception that the accredited renovation training program shall retain records at the address specified on the accredited renovation training program application or as updated with the board for a minimum of five years and six months.

B. The training manager shall notify the board at least 48 hours prior to the start date of any approved training course.

C. The training manager shall provide an updated notification when an approved training course will begin on a date other than the start date specified in the original notification as follows:

1. For an approved training course beginning before the start date provided to the board, an updated notification must be received by the board at least 48 hours before the new start date.

2. For an approved training course beginning after the start date provided to the board, an updated notification must be received by the board at least 48 hours before the new start date provided to the board.

D. The training manager shall update the board of any change in location of the approved training course at least 48 hours prior to the start date provided to the board.

E. Barring situations or circumstances beyond the control of the accredited renovation training program, the training manager shall update the board regarding the cancellation of any approved training course at least two business days prior to the start date provided to the board. For the purposes of this section, a business day shall mean Monday through Friday with the exception of holidays, in accordance with § 2.2-3300 of the Code of Virginia.

F. Each notification, including updates, shall include the following:

1. Notification type (original, revision, cancellation).
2. Approved training course name, Virginia training course approval number, address, and telephone number.
3. Course discipline, type (initial or refresher), and the language in which instruction will be given.
4. Date and time of the approved training course.
5. Training location and corresponding address and telephone number.
6. Principal instructor's name.
7. Training manager's name.

G. The approved training course participant list shall be completed daily.

H. The approved training course participant list shall be retained by the accredited renovation training program for a minimum of five years and six months following the date of completion of the approved training course.

I. The training manager shall provide the board the approved training course participant list no later than 10 business days following completion of the approved training course.

J. The approved training course participant list shall include the following:

1. Approved training course name, Virginia training course approval number, address, and telephone number;
2. Course discipline and type, initial or refresher;
3. Dates of training;
4. Each participant's name, address, social security number or Virginia DMV control number, course certificate of completion number, and course examination score, if applicable;
5. Participant list type (original or revision); and
6. Training manager's name.

K. Notification and approved training course participant lists shall be submitted electronically in the form prescribed by the department.

Regulations

L. The accredited renovation training program shall retain all examinations completed by approved training course participants for a minimum of five years and six months.

M. The board shall not recognize training certificates of completion from accredited training programs that fail to notify or fail to provide an approved training course participant list.]

Part IX

Standards for Conducting Renovation Activities

18VAC15-50-390. [~~Activities conducted after successful cleaning verification or clearance testing~~ General requirements].

[~~Activities that do not disturb paint, such as repainting walls that have been properly prepared, are not regulated under this chapter if they are conducted after post renovation cleaning verification has been performed or clearance testing results show dust lead levels below the clearance standards specified in 40 CFR Part 745.~~

All renovation activities performed for compensation in target housing and child-occupied facilities shall be conducted in accordance with 40 CFR 745.]

18VAC15-50-400. [~~Emergency renovations~~ Pre-renovation education requirements].

[~~A. Emergency renovations are exempt from the warning sign, containment, waste handling, training, and licensure requirements of this chapter to the extent necessary to respond to the emergency.~~

~~B. Emergency renovations are not exempt from cleaning and clearance requirements or recordkeeping requirements specified in 40 CFR Part 745.~~

All licensed renovation contractors shall comply with the information distribution requirement related to lead-based paint renovation activities, in accordance with 40 CFR 745.]

18VAC15-50-410. [~~Recognized testing methodologies~~ Renovation contractor].

[~~A. When requested by the party contracting for renovation services, the licensed renovator may use only an EPA-recognized paint testing methodology to determine whether components and surfaces to be affected by the renovation activities contain lead based paint. The certified renovator shall test each distinct component and surface to be affected, follow the manufacturer's instructions for use of the paint test kit, and document the records in accordance with 18VAC15-50-170.~~

~~B. Recognized test kits shall meet or exceed both the negative response criteria and positive response criteria as specified in 40 CFR Part 745.~~

All lead-based paint renovation activities performed for compensation in target housing and child-occupied facilities shall be conducted in accordance with 40 CFR 745.]

[18VAC15-50-420. Renovator.

A. All lead-based paint renovation activities performed for compensation in target housing and child-occupied facilities shall be conducted in accordance with 40 CFR 745.

B. The licensed renovator shall have with him at the work site a copy of his current approved initial training course certificate of completion and his current approved refresher training course certificate of completion, and a copy of his valid Virginia renovator license.

18VAC15-50-430. Dust sampling technician.

A. A licensed dust sampling technician, a licensed lead inspector, or a licensed lead risk assessor may conduct dust sampling for renovation activities.

B. When performing dust clearance sampling, a licensed dust sampling technician, a licensed lead inspector, or a licensed lead risk assessor shall collect dust samples in accordance with 40 CFR 745, send the collected samples to a laboratory recognized by EPA under TSCA section 405(b), and compare the results to the clearance levels in accordance with 40 CFR 745.

C. The licensed dust sampling technician shall complete a written clearance report that includes laboratory results. A copy of the clearance report shall be provided to the person with whom the dust sampling technician entered into a contract.

D. The licensed dust sampling technician shall have with him at the work site a copy of his current approved initial training course certificate of completion and his current approved refresher training course certificate of completion, and a copy of his valid Virginia dust sampling technician license.

18VAC15-50-440. Activities conducted after successful cleaning verification or clearance testing.

Activities that do not disturb paint, such as re-painting walls that have been properly prepared, are not regulated under this chapter if they are conducted after post-renovation cleaning verification has been performed or clearance testing results show dust lead levels below the clearance standards specified in 40 CFR 745.

18VAC15-50-450. Emergency renovations.

A. Emergency renovations are exempt from the warning sign, containment, waste handling, training, and licensure requirements of this chapter to the extent necessary to respond to the emergency.

B. Emergency renovations are not exempt from cleaning and clearance requirements or recordkeeping requirements specified in 40 CFR 745.

18VAC15-50-460. Recognized testing methodologies.

A. When requested by the party contracting for renovation services, the licensed renovator may use only an EPA-recognized paint testing methodology to determine whether components and surfaces to be affected by the renovation activities contain lead-based paint. The certified renovator shall test each distinct component and surface to be affected, follow the manufacturer's instructions for use of the paint test kit, and document the records, in accordance with 18VAC15-50-320.

B. Recognized test kits or collecting paint chip samples and submitting to an NLLAP recognized laboratory for analysis shall meet or exceed both the negative response criteria and positive response criteria, as specified in 40 CFR 745.]

VA.R. Doc. No. R10-2367; Filed April 26, 2021, 8:42 a.m.

BOARD OF FUNERAL DIRECTORS AND EMBALMERS

Forms

REGISTRAR'S NOTICE: Forms used in administering the regulation have been filed by the agency. The forms are not being published; however, online users of this issue of the Virginia Register of Regulations may click on the name of a form with a hyperlink to access it. The forms are also available from the agency contact or may be viewed at the Office of the Registrar of Regulations, 900 East Main Street, 11th Floor, Richmond, Virginia 23219.

Title of Regulation: 18VAC65-40. Regulations for the Funeral Service Internship Program.

Agency Contact: Elaine Yeatts, Agency Regulatory Coordinator, Board of Funeral Directors and Embalmers, 9960 Mayland Drive, Suite 300, Henrico, VA 23233, telephone (804) 367-0468, or email elaine.yeatts@dhp.virginia.gov.

FORMS (18VAC65-40)

Application for Funeral Service Internship Program, online form available at <https://www/license/dhp.virginia.gov/apply/>

- ~~Funeral Supervisor Registration Application (rev. 7/2020)~~
- ~~First 1000 Hour Funeral Internship Report (rev. 7/2020)~~
- ~~Second 1000 Hour Funeral Internship Report (rev. 7/2020)~~
- ~~Third 1000 Hour Funeral Internship Report (rev. 7/2020)~~
- ~~Funeral Internship Report of Final Completion (rev. 7/2020)~~
- ~~Funeral Service Intern Reinstatement Application (rev. 7/2020)~~
- [Funeral Supervisor Registration Application \(rev. 2/2021\)](#)
- [Funeral Change of Supervisor Application \(rev. 2/2021\)](#)
- [First 1000 Hour Funeral Service Internship Report – Funeral Directing \(rev.1/2021\)](#)

[Second 1000 Hour Funeral Service Internship Report – Funeral Directing \(rev. 1/2021\)](#)

[Funeral Service Internship Report of Final Completion – Funeral Directing \(rev. 1/2021\)](#)

[First 1000 Hour Embalming Internship Report \(rev. 1/2021\)](#)

[Second 1000 Hour Embalming Internship Report \(rev. 1/2021\)](#)

[Embalming Internship Report of Final Completion \(rev. 1/2021\)](#)

VA.R. Doc. No. R21-6762; Filed April 21, 2021, 3:21 p.m.

BOARD OF OPTOMETRY

Proposed Regulation

Title of Regulation: 18VAC105-20. Regulations Governing the Practice of Optometry (amending 18VAC105-20-47).

Statutory Authority: §§ 54.1-2400 and 54.1-3408.02 of the Code of Virginia.

Public Hearing Information:

June 7, 2021 - 10:00 a.m. - Electronic meeting. Instructions will be posted at <http://www.dhp.virginia.gov> prior to the meeting.

Public Comment Deadline: July 23, 2021.

Agency Contact: Leslie L. Knachel, Executive Director, Board of Optometry, 9960 Mayland Drive, Suite 300, Richmond, VA 23233, telephone (804) 597-4130, FAX (804) 527-4471, or email leslie.knachel@dhp.virginia.gov.

Basis: Regulations are promulgated under the general authority of § 54.1-2400, which provides the Board of Optometry the authority to promulgate regulations to administer the regulatory system. The specific statutory provisions for electronic prescribing and the authority for granting a waiver are found in § 54.1-3408.02 of the Code of Virginia.

Purpose: The purpose of this regulatory action is compliance with a statutory requirement to promulgate regulations setting out the conditions upon which the boards may grant a one-year waiver from the requirement for e-prescribing of a controlled substance containing an opioid. Since the circumstances may vary from practitioner to practitioner, the boards have used the conditions set forth in the Code of Virginia as the basis for the regulation and take into consideration in making a case-by-case decision on a waiver the health, safety, and welfare of a practitioner's patients.

Substance: Subsection D is added to 18VAC105-20-47 to (i) reiterate the requirement that takes effect on July 1, 2020, that a prescription for a controlled substance that contains an opioid must be issued as an electronic prescription unless the prescriber qualifies for an exemption provided in the law; and (ii) provide for a one-year waiver from the requirement if the practitioner can demonstrate economic hardship technological

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limitations or other exceptional circumstances beyond the practitioner's control.

Issues: There are no advantages or disadvantages to the public apart from those in the statutory language. Submitting opioid prescriptions electronically has been shown to reduce prescription fraud and thereby reduce the volume of opioids available for abuse or misuse. The waiver provision (in addition to the specific exemptions to electronic prescribing) will allow for continued prescribing for practitioners who are not able to comply for exceptional circumstances beyond their control. There are no particular advantages or disadvantages to the agency; there may be an advantage to the Commonwealth by a reduction in fraudulent prescriptions.

Department of Planning and Budget's Economic Impact Analysis:

Summary of the Proposed Amendments to Regulation. The Board of Optometry (Board) proposes to amend 18VAC105-20 Regulations of the Virginia Board of Optometry in order to require that prescriptions of medications containing opioids be transmitted electronically from the prescribing authority to the pharmacist and to grant one-time waivers up to one year if a prescriber cannot transmit prescriptions electronically as of July 1, 2020. The proposed amendment would make permanent the existing emergency text and is intended to prevent the abuse of prescription drugs containing opioids.

Background. Section 54.1-3408.02 of the Code of Virginia states that prescriptions may be transmitted electronically or by facsimile machine and shall be treated as valid original prescriptions.¹ The 2017 Acts of Assembly (Chapters 115 and 429) amended and reenacted this section of the Code to require that "any prescription for a controlled substance that contains an opiate shall be issued as an electronic prescription." The reenacted section containing this requirement took effect on July 1, 2020.² The same legislation also updated the definition of "electronic prescriptions" to be "a written prescription that is generated on an electronic application and is transmitted to a pharmacy as an electronic data file; Schedule II through V prescriptions shall be transmitted in accordance with 21 C.F.R. Part 1300."³

Subsequently, pursuant to a statutory change requested by the Board,⁴ Chapter 664 of the 2019 Acts of Assembly further amended this section to insert ten exemptions to this requirement and to authorize the licensing health regulatory board to grant a hardship waiver for one year.⁵ Chapter 664 also required that the Board of Medicine, the Board of Nursing, the Board of Dentistry, and the Board of Optometry promulgate regulations to implement the waivers within 280 days of the act's enactment. Hence, the Board promulgated an emergency regulation that became effective on August 12, 2020.⁶

The proposed amendment adds a section to the regulation (specifically 18VAC105-20-47) containing a subsection as quoted below.

18VAC105-20-47. Therapeutic pharmaceutical agents.

D. Beginning July 1, 2020, a prescription for a controlled substance that contains an opioid shall be issued as an electronic prescription consistent with § 54.1-3408.02 of the Code of Virginia, unless the prescription qualifies for an exemption as set forth in subsection C of that section. Upon written request, the board may grant a one-time waiver of the requirement for electronic prescribing, for a period not to exceed one year, due to demonstrated economic hardship, technological limitations that are not reasonably within the control of the prescriber, or other exceptional circumstances demonstrated by the prescriber.

Thus, the proposed amendment would inform readers as to the electronic transmission requirement and the waiver that may be obtained, but readers would need to refer to § 54.1-3408.02 of the Code to find the exemptions that were added by Chapter 664 of the 2019 Acts of Assembly.

The exemptions provided in the Code would directly affect the potential cost of transmitting electronic prescriptions in a variety of settings. Thus, although they are not explicitly mentioned in the text of the regulation, the exemptions are listed here for the reader's reference, with parenthetical notes inserted for clarity of context.

§ 54.1-3408.02 C. The requirements of subsection B (electronic transmission) shall not apply if:

1. The prescriber dispenses the controlled substance that contains an opioid directly to the patient or the patient's agent;
2. The prescription is for an individual who is residing in a hospital, assisted living facility, nursing home, or residential health care facility or is receiving services from a hospice provider or outpatient dialysis facility;
3. The prescriber experiences temporary technological or electrical failure or other temporary extenuating circumstance that prevents the prescription from being transmitted electronically, provided that the prescriber documents the reason for this exception in the patient's medical record;
4. The prescriber issues a prescription to be dispensed by a pharmacy located on federal property, provided that the prescriber documents the reason for this exception in the patient's medical record;
5. The prescription is issued by a licensed veterinarian for the treatment of an animal;
6. The FDA requires the prescription to contain elements that are not able to be included in an electronic prescription;
7. The prescription is for an opioid under a research protocol;
8. The prescription is issued in accordance with an executive order of the Governor of a declared emergency;
9. The prescription cannot be issued electronically in a timely manner and the patient's condition is at risk,

provided that the prescriber documents the reason for this exception in the patient's medical record; or

10. The prescriber has been issued a waiver pursuant to subsection D (hardship waiver).

Further, Chapter 664 also amended § 54.1-3410 of the Code, effective July 1, 2020, which addresses when pharmacists may sell and dispense drugs. It adds a subsection to clarify that, "A dispenser who receives a non-electronic prescription for a controlled substance containing an opioid is not required to verify that one of the exceptions set forth in § 54.1-3408.02 applies and may dispense such controlled substance pursuant to such prescription and applicable law."

Estimated Benefits and Costs. The 2017 Acts of Assembly (Chapters 115 and 429) also directed the Secretary of Health and Human Resources to convene a work group of interested stakeholders to review actions necessary for the implementation of electronic prescriptions for controlled substances and evaluate the burden on prescribers, including the inability of prescribers to comply with the deadline. The E-Prescribing Workgroup's final report indicates that roughly 61 percent of prescribers and nearly 99 percent of pharmacies in Virginia had already adopted electronic prescriptions by 2018 and faced no additional costs.⁷ The Department of Health Professions (DHP) states that all optometrists who had a proper application (five optometrists) have been granted a waiver thus far.

It appears those who needed a waiver have already been granted an extension and those with a waiver who need to implement e-prescribing before their waiver expires would face additional costs such as acquisition and integration of software and possibly internet connectivity. The public would benefit to the extent that increasing electronic prescriptions of controlled substances decreases diversion and instances of substance abuse.

Businesses and Other Entities Affected. There are approximately 1,623 Therapeutic Pharmaceutical Agent (TPA) certified optometrists. Licensees would only be affected by the new requirements if (i) they prescribe medications containing opioids, (ii) they do not work in a type of facility that is included in the exemptions listed above, and (iii) they do not already use e-prescription technology. The only Schedule II drug containing an opioid that optometrists can prescribe is hydrocodone in combination with acetaminophen, so not all optometrists are affected by the requirement for electronic prescribing. According to DHP, five optometrists have been granted a waiver thus far.

Small Businesses⁸ Affected. It is not known exactly how many optometrists are small businesses or employees of a small business, but most optometrists do work in small businesses. However, there does not appear to be disproportionately higher costs for small businesses.

Localities⁹ Affected¹⁰. The proposed amendments potentially affect prescribers and patients in all localities. The proposed

amendments are unlikely to introduce new costs for local governments.

Projected Impact on Employment. The proposed amendments are unlikely to affect total employment in the industry.

Effects on the Use and Value of Private Property. The proposed amendments are unlikely to substantively affect the use or value of private property. Real estate development costs are unlikely to be affected.

¹See <https://law.lis.virginia.gov/vacode/title54.1/chapter34/section54.1-3408.02/>

²See <http://lis.virginia.gov/cgi-bin/legp604.exe?171+ful+CHAP0429>

³See Definitions effective July 1, 2020: <https://law.lis.virginia.gov/vacode/title54.1/chapter34/section54.1-3401/>

⁴See https://townhall.virginia.gov/L/GetFile.cfm?File=Meeting\30\26790\Agenda_DHP_26790_v1.pdf (page 172)

⁵See <http://lis.virginia.gov/cgi-bin/legp604.exe?191+ful+CHAP0664>

⁶See <https://townhall.virginia.gov/L/ViewStage.cfm?stageid=8834>

⁷<https://rga.lis.virginia.gov/Published/2018/RD416>

⁸Pursuant to § 2.2-4007.04 of the Code of Virginia, small business is defined as "a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million."

⁹"Locality" can refer to either local governments or the locations in the Commonwealth where the activities relevant to the regulatory change are most likely to occur.

¹⁰§ 2.2-4007.04 defines "particularly affected" as bearing disproportionate material impact.

Agency's Response to Economic Impact Analysis: The Board of Optometry concurs with the economic impact analysis of the Department of Planning and Budget.

Summary:

Pursuant to Chapter 664 of the 2019 Acts of Assembly, the proposed amendments (i) reiterate the requirement that takes effect on July 1, 2020, that a prescription for a controlled substance that contains an opioid must be issued as an electronic prescription unless the prescriber qualifies for an exemption set out in the law; and (ii) provide for a one-year waiver from the requirement if the practitioner can demonstrate economic hardship technological limitations or other exceptional circumstances beyond the practitioner's control.

18VAC105-20-47. Therapeutic pharmaceutical agents.

A. A TPA-certified optometrist, acting within the scope of his practice, may procure, administer, and prescribe medically appropriate therapeutic pharmaceutical agents (or any therapeutically appropriate combination thereof) to treat diseases and abnormal conditions of the human eye and its adnexa within the following categories:

1. Oral analgesics - Schedule II controlled substances consisting of hydrocodone in combination with

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acetaminophen and Schedules III, IV, and VI narcotic and nonnarcotic agents.

2. Topically administered Schedule VI agents:

- a. Alpha-adrenergic blocking agents;
- b. Alpha-adrenergic agonists;
- c. Anesthetic (including esters and amides);
- d. Anti-allergy (including antihistamines and mast cell stabilizers);
- e. Anti-fungal;
- f. Anti-glaucoma (including carbonic anhydrase inhibitors and hyperosmotics);
- g. Anti-infective (including antibiotics and antivirals);
- h. Anti-inflammatory;
- i. Cycloplegics and mydriatics;
- j. Decongestants; and
- k. Immunosuppressive agents.

3. Orally administered Schedule VI agents:

- a. Aminocaproic acids (including antifibrinolytic agents);
- b. Anti-allergy (including antihistamines and leukotriene inhibitors);
- c. Anti-fungal;
- d. Anti-glaucoma (including carbonic anhydrase inhibitors and hyperosmotics);
- e. Anti-infective (including antibiotics and antivirals);
- f. Anti-inflammatory (including steroidal and nonsteroidal);
- g. Decongestants; and
- h. Immunosuppressive agents.

B. Schedules I, II, and V drugs are excluded from the list of therapeutic pharmaceutical agents with the exception of controlled substances in Schedule II consisting of hydrocodone in combination with acetaminophen and gabapentin in Schedule V.

C. Over-the-counter topical and oral medications for the treatment of the eye and its adnexa may be procured for administration, administered, prescribed, or dispensed.

D. Beginning July 1, 2020, a prescription for a controlled substance that contains an opioid shall be issued as an electronic prescription consistent with § 54.1-3408.02 of the Code of Virginia, unless the prescription qualifies for an exemption as set forth in subsection C of § 54.1-3408.02. Upon written request, the board may grant a one-time waiver of the requirement for electronic prescribing, for a period not to exceed one year, due to demonstrated economic hardship, technological limitations that are not reasonably within the control of the prescriber, or other exceptional circumstances demonstrated by the prescriber.

VA.R. Doc. No. R21-6199; Filed April 22, 2021, 9:16 a.m.

BOARD OF PHARMACY

Final Regulation

REGISTRAR'S NOTICE: The Board of Pharmacy is claiming an exemption from Article 2 of the Administrative Process Act in accordance with § 2.2-4006 A 13 of the Code of Virginia, which exempts amendments to regulations of the board to schedule a substance in Schedule I or II pursuant to subsection D of § 54.1-3443 of the Code of Virginia. The board will receive, consider, and respond to petitions by any interested person at any time with respect to reconsideration or revision.

Title of Regulation: 18VAC110-20. Regulations Governing the Practice of Pharmacy (amending 18VAC110-20-322).

Statutory Authority: §§ 54.1-2400 and 54.1-3443 of the Code of Virginia.

Effective Date: June 23, 2021.

Agency Contact: Caroline Juran, RPh, Executive Director, Board of Pharmacy, 9960 Mayland Drive, Suite 300, Richmond, VA 23233-1463, telephone (804) 367-4456, FAX (804) 527-4472, or email caroline.juran@dhp.virginia.gov.

Summary:

The amendments add six compounds into Schedule I of the Drug Control Act as recommended by the Department of Forensic Science pursuant to § 54.1-3443 of the Code of Virginia. These compounds added by regulatory action will remain in effect for 18 months or until the compounds are placed in Schedule I by legislative action of the General Assembly.

18VAC110-20-322. Placement of chemicals in Schedule I.

A. Pursuant to subsection D of § 54.1-3443 of the Code of Virginia, the Board of Pharmacy places the following in Schedule I of the Drug Control Act:

1. Synthetic opioids.

a. N-[2-(dimethylamino)cyclohexyl]-N-phenylfuran-2-carboxamide (other name: Furanyl UF-17), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

b. N-[2-(dimethylamino)cyclohexyl]-N-phenylpropionamide (other name: UF-17), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

2. Research chemicals.

a. 5-methoxy-N,N-dibutyltryptamine (other name: 5-methoxy-DBT), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence

of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

b. 1-(1,3-benzodioxol-5-yl)-2-(ethylamino)-1-butanone (other name: Eutylone, bk-EBDB), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

c. 1-(1,3-benzodioxol-5-yl)-2-(butylamino)-1-pentanone (other name: N-butylpentylone), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

d. N-benzyl-3,4-dimethoxyamphetamine (other name: N-benzyl-3,4-DMA), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

e. 3,4-methylenedioxy-N-benzylcathinone (other name: BMDP), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

3. Cannabimimetic agents.

a. Ethyl 2-({1-[(4-fluorophenyl)methyl]-1H-indazole-3-carbonyl}amino)-3-methylbutanoate (other name: EMB-FUBINACA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

b. Methyl 2-[1-(4-fluorobutyl)-1H-indazole-3-carboxamido]-3,3-dimethylbutanoate (other name: 4-fluoro-MDMB-BUTINACA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

The placement of drugs listed in this subsection shall remain in effect until June 10, 2021, unless enacted into law in the Drug Control Act.

B. Pursuant to subsection D of § 54.1-3443 of the Code of Virginia, the Board of Pharmacy places the following in Schedule I of the Drug Control Act:

1. Synthetic opioids.

a. N-phenyl-N-[1-(2-phenylmethyl)-4-piperidinyl]-2-furancarboxamide (other name: N-benzyl Furanyl norfentanyl), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

b. 1-[2-methyl-4-(3-phenyl-2-propen-1-yl)-1-piperazinyl]-1-butanone (other name: 2-methyl AP-237), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

2. Research chemicals.

a. N-hexyl-3,4-dimethoxyamphetamine (other names: N-hexyl-3,4-DMA), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

b. N-heptyl-3,4-dimethoxyamphetamine (other names: N-heptyl-3,4-DMA), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

c. 2-(isobutylamino)-1-phenylhexan-1-one (other names: N-Isobutyl Hexedrone, α -isobutylaminohexanphenone), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

d. 1-(benzo[d][1,3]dioxol-5-yl)-2-(sec-butylamino)pentan-1-one (other name: N-sec-butyl Pentylone), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

e. 2-fluoro-Deschloroketamine (other name: 2-(2-fluorophenyl)-2-(methylamino)-cyclohexanone), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

3. Cannabimimetic agents.

a. Methyl 2-[1-(5-fluoropentyl)-1H-indole-3-carboxamido]-3-methylbutanoate (other name: MMB 2201), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

b. Methyl 2-[1-(4-penten-1-yl)-1H-indole-3-carboxamido]-3-methylbutanoate (other names: MMB022, MMB-4en-PICA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

c. Methyl 2-[1-(5-fluoropentyl)-1H-indole-3-carboxamido]-3-phenylpropanoate (other name: 5-fluoro-MPP-PICA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of

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isomers is possible within the specific chemical designation.

d. 1-(5-fluoropentyl)-N-(1-methyl-1-phenylethyl)-1H-indole-3-carboxamide (other name: 5-fluoro CUMYL-PICA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

The placement of drugs listed in this subsection shall remain in effect until February 4, 2022, unless enacted into law in the Drug Control Act.

C. Pursuant to subsection D of § 54.1-3443 of the Code of Virginia, the Board of Pharmacy places the following in Schedule I of the Drug Control Act:

1. Synthetic opioids.

a. N-phenyl-N-(4-piperidinyl)-propanamide (other name: Norfentanyl), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

b. N,N-diethyl-2-(2-(4-isopropoxybenzyl)-5-nitro-1H-benzimidazol-1-yl)ethan-1-amine (other name: Isotonitazene), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

2. Research chemicals.

a. (2-ethylaminopropyl)benzofuran (other name: EAPB), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

b. 2-(ethylamino)-1-phenylheptan-1-one (other name: N-ethylheptedrone), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

c. 4-ethyl-2,5-dimethoxy-N-[(2-hydroxyphenyl)methyl]-benzeneethanamine (other name: 25E-NBOH), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

d. 4-hydroxy-N-ethyl-N-propyltryptamine (other name: 4-hydroxy-EPT), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

e. N-ethyl-1-(3-hydroxyphenyl)cyclohexylamine (other name: 3-hydroxy-PCE), its optical, position, and

geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

f. 1-cyclopropionyl lysergic acid diethylamide (other name: 1cP-LSD), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

g. 1-(4-methoxyphenyl)-N-methylpropan-2-amine (other names: para-Methoxymethamphetamine, PMMA), its optical, position, and geometric isomers, salts, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

3. Cannabimimetic agents.

a. Methyl 2-[1-(pent-4-enyl)-1H-indazole-3-carboxamido]-3,3-dimethylbutanoate (other name: MDMB-4en-PINACA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

b. N-(1-amino-3,3-dimethyl-1-oxobutan-2-yl)-1-butylindazole-3-carboxamide (other name: ADB-BUTINACA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

c. N-(1-amino-3-methyl-1-oxobutan-2-yl)-1-(5-chloropentyl)indazole-3-carboxamide (other name: 5-chloro-AB-PINACA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

d. Methyl 2-({1-[(4-fluorophenyl)methyl]-1H-indole-3-carbonyl}amino)-3-methylbutanoate (other names: MMB-FUBICA, AMB-FUBICA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

The placement of drugs listed in this subsection shall remain in effect until May 24, 2022, unless enacted into law in the Drug Control Act.

D. Pursuant to subsection D of § 54.1-3443 of the Code of Virginia, the Board of Pharmacy places the following in Schedule I of the Drug Control Act:

1. Synthetic opioid. N,N-diethyl-2-[(4-methoxyphenyl)methyl]-1H-benzimidazole-1-ethanamine (other name: Metodesnitazene), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

2. Compounds expected to have hallucinogenic properties.
 - a. 4-fluoro-3-methyl-alpha-pyrrolidinovalerophenone (other name: 4-fluoro-3-methyl-alpha-PVP), its salts, isomers (optical, position, and geometric), and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.
 - b. 4-fluoro-alpha-methylamino-valerophenone (other name: 4-fluoropentedrone), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers (optical, position, and geometric), and salts of isomers is possible within the specific chemical designation.
 - c. N-(1,4-dimethylpentyl)-3,4-dimethoxyamphetamine (other name: N-(1,4-dimethylpentyl)-3,4-DMA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers (optical, position, and geometric), and salts of isomers is possible within the specific chemical designation.
 - d. 4,5-methylenedioxy-N,N-diisopropyltryptamine (other name: 4,5-MDO-DiPT), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers (optical, position, and geometric), and salts of isomers is possible within the specific chemical designation.
 - e. Alpha-pyrrolidinocyclohexanophenone (other name: alpha-PCYP), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers (optical, position, and geometric), and salts of isomers is possible within the specific chemical designation.
 - f. 3,4-methylenedioxy-alpha-pyrrolidinoheptiophenone (other name: MDPV8), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers (optical, position, and geometric), and salts of isomers is possible within the specific chemical designation.
3. Compounds expected to have depressant properties.
 - a. Bromazolam, its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.
 - b. Deschloroetizolam, its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.
 - c. 7-chloro-5-(2-fluorophenyl)-1,3-dihydro-1,4-benzodiazepin-2-one (other name: Norfludiazepam), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.
4. Cannabimimetic agents.
 - a. Methyl 2-[1-(4-fluorobutyl)-1H-indole-3-carboxamido]-3,3-dimethylbutanoate (other name: 4-fluoro-MDMB-BUTICA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and

salts of isomers is possible within the specific chemical designation.

- b. Ethyl 2-[1-(5-fluoropentyl)-1H-indole-3-carboxamido]-3-methylbutanoate (other name: 5-fluoro-EMB-PICA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

The placement of drugs listed in this subsection shall remain in effect until October 27, 2022, unless enacted into law in the Drug Control Act.

E. Pursuant to subsection D of § 54.1-3443 of the Code of Virginia, the Board of Pharmacy places the following in Schedule I of the Drug Control Act:

1. Synthetic opioids.

a. 1-{1-[1-(4-bromophenyl)ethyl]-4-piperidinyl}-1,3-dihydro-2H-benzimidazol-2-one (other name: Brorphine), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

b. N-(4-chlorophenyl)-N-[1-(2-phenylethyl)-4-piperidinyl]-propanamide (other names: para-chlorofentanyl, 4-chlorofentanyl), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

c. 2-[(4-methoxyphenyl)methyl]-N,N-diethyl-5-nitro-1H-benzimidazole-1-ethanamine (other name: Metonitazene), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

d. N,N-diethyl-2-[[4-ethoxyphenyl] methyl]-1H-benzimidazol-1-yl]-ethan-1-amine (other name: Etazene, Desnitroetionitazene), its isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, whenever the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation.

2. Depressant. 5-(2-chlorophenyl)-1,3-dihydro-3-methyl-7-nitro-2H-1,4-benzodiazepin-2-one (other name: Meclonazepam), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

3. Cannabimimetic agent. Ethyl-2-[1-(5-fluoropentyl)-1H-indole-3-carboxamido]-3,3-dimethylbutanoate (other name: 5-fluoro EDMB-PICA), its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation.

Regulations

The placement of drugs listed in this subsection shall remain in effect until December 23, 2022, unless enacted into law in the Drug Control Act.

VA.R. Doc. No. R21-6771; Filed April 29, 2021, 9:08 a.m.

Proposed Regulation

Title of Regulation: **18VAC110-60. Regulations Governing Pharmaceutical Processors (amending 18VAC110-60-280).**

Statutory Authority: §§ 54.1-2400 and 54.1-3442.6 of the Code of Virginia.

Public Hearing Information:

June 4, 2021 - 9:10 a.m. - Electronic access only.
Instructions will be posted at <http://www.dhp.virginia.gov> prior to the meeting.

Public Comment Deadline: July 23, 2021.

Agency Contact: Caroline Juran, RPh, Executive Director, Board of Pharmacy, 9960 Mayland Drive, Suite 300, Richmond, VA 23233, telephone (804) 367-4456, FAX (804) 527-4472, or email caroline.juran@dhp.virginia.gov.

Basis: Regulations are promulgated under the general authority of § 54.1-2400 of the Code of Virginia, which provides the Board of Pharmacy the authority to promulgate regulations to administer the regulatory system. Statutory provisions specific to regulation of pharmaceutical processors are found in § 54.1-3442.6 of the Code of Virginia.

Purpose: The purpose is to address the public health concern from a significant number of cases of lung disease associated with vaping or e-cigarettes. Since testing by the Centers for Disease Control and Prevention (CDC) has shown that vitamin E acetate is a chemical of concern, the board has adopted a prohibition against production of cannabis oil containing vitamin E acetate in products intended for vaping or inhalation. The amended regulation is intended to protect the health and safety of consumers who will have access to the oils in the coming months.

Substance: 18VAC110-60-280 on cultivation and production of cannabis oil is amended to prohibit the production of an oil intended to be vaporized or inhaled from containing vitamin E acetate.

Issues: The advantages to the public include greater assurance of the safety and integrity of the vaping products dispensed; there are no disadvantages to the public. There are no advantages or disadvantages to the agency.

Department of Planning and Budget's Economic Impact Analysis:

Summary of the Proposed Amendments to Regulation. The Board of Pharmacy (Board) proposes to prohibit pharmaceutical processors from producing or dispensing any cannabis oil that contains vitamin E acetate if that oil is intended to be vaporized or inhaled.¹ This ban on cannabis oil products containing vitamin E acetate was first implemented via an emergency action in response to a spike in lung injury

among users of e-cigarettes and vaping products.² The proposed amendment would make this ban permanent.

Background. The Board seeks to ban the use of vitamin E acetate (also known as tocopheryl acetate) in cannabis oil products that are intended for vaping. Specifically, the proposed amendment would add the following sentence to 18VAC110-60-280 on the cultivation and production of cannabis oil: "No cannabis oil intended to be vaporized or inhaled shall contain vitamin E acetate."³ The Board first sought to address the outbreak of e-cigarette or vaping product use-associated lung injury (EVALI) in November 2019. As of November 13, 2019, the Centers for Disease Control (CDC) reported 2,172 cases of lung disease associated with e-cigarette or vaping product use in 49 states (including Virginia) and 42 deaths in 24 states.⁴ Currently, the CDC's main findings regarding EVALI are as follows:

National and state data from patient reports and product sample testing show tetrahydrocannabinol (THC)-containing e-cigarette, or vaping, products, particularly from informal sources like friends, family, or in-person or online dealers, are linked to most EVALI cases and play a major role in the outbreak.

Vitamin E acetate is strongly linked to the EVALI outbreak. Vitamin E acetate has been found in product samples tested by the Food and Drug Administration and state laboratories and in patient lung fluid samples tested by CDC from geographically diverse states. Vitamin E acetate has not been found in the lung fluid of people who do not have EVALI.

Evidence is not sufficient to rule out the contribution of other chemicals of concern, including chemicals in either THC or non-THC products, in some of the reported EVALI cases.⁵

The Board initially considered a ban on vaping products containing cannabis oil altogether, but decided to more narrowly ban the use of vitamin E acetate in such products once the CDC had identified this chemical to be responsible for EVALI.⁶

Estimated Benefits and Costs. Prohibiting pharmaceutical processors from producing or dispensing THC-containing e-cigarettes or vaping products that contain vitamin E acetate would protect registered patients who are eligible to obtain these products, thereby benefiting them. By selectively banning vitamin-E acetate, the proposed amendment mitigates any costs or losses that pharmaceutical processors may have incurred had the Board sought to implement a general ban on THC-containing e-cigarettes or vaping products.

Businesses and Other Entities Affected. There are currently four pharmaceutical processors who have been issued permits. Assuming they complied with the ban when the emergency action was first promulgated, the proposed amendment to make the ban permanent would not lead to any additional costs to them.⁷ Further, should the Board allow new entrants in the future, they would be unlikely to face additional costs or be discouraged from entry as a result of the proposed amendment.

Small Businesses⁸ Affected. It is unknown if any of the pharmaceutical processors are small businesses, and the Board did not indicate if any processors were small businesses. However, the proposed amendment is unlikely to disproportionately impact any small business processors since it would likely not produce an adverse impact on any of the pharmaceutical processors.

Localities⁹ Affected.¹⁰ The proposed amendment does not introduce new costs for local governments and is unlikely to affect any locality in particular.

Projected Impact on Employment. The proposed amendment is unlikely to affect employment by pharmaceutical processors.

Effects on the Use and Value of Private Property. The proposed amendment is unlikely to affect the use and value of private property. Real estate development costs are not affected.

¹A pharmaceutical processor is a facility that has obtained a permit from the Board to cultivate cannabis plants for the production of cannabis oil, and dispense the oil to patients registered by the Board for treatment or to alleviate the symptoms of any diagnosed condition or disease determined by the physician to benefit from such use.

²See <https://townhall.virginia.gov/L/ViewStage.cfm?stageid=8856>, which became effective August 6, 2020.

³The emergency regulation referred to "THC-A oil or cannabidiol oil." However, due to legislation passed in the 2020 General Assembly, these terms have been eliminated and "cannabis oil" is used instead. See <https://lis.virginia.gov/cgi-bin/legp604.exe?201+ful+CHAP1278>.

⁴See page 2 of the Agency Background Document (ABD): https://townhall.virginia.gov/L/GetFile.cfm?File=30\5452\9166\AgencyStatement_DHP_9166_v1.pdf.

⁵See https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html.

⁶As per the Department of Health Professions (DHP); see note 3 for a link to the ABD.

⁷DHP reported that the Board did not receive any comments or complaints from the pharmaceutical processors following the emergency action.

⁸Pursuant to § 2.2-4007.04 of the Code of Virginia, small business is defined as "a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million."

⁹"Locality" can refer to either local governments or the locations in the Commonwealth where the activities relevant to the regulatory change are most likely to occur.

¹⁰§ 2.2-4007.04 defines "particularly affected" as bearing disproportionate material impact.

Agency's Response to Economic Impact Analysis: The Board of Pharmacy concurs with the economic impact analysis of the Department of Planning and Budget.

Summary:

The proposed amendment prohibits the production of an oil intended to be vaporized or inhaled from containing vitamin E acetate.

18VAC110-60-280. Cultivation and production of cannabis oil.

A. No cannabis oil shall have had pesticide chemicals or petroleum-based solvents used during the cultivation,

extraction, production, or manufacturing process, except that the board may authorize the use of pesticide chemicals for purposes of addressing an infestation that could result in a catastrophic loss of Cannabis crops.

B. Cultivation methods for Cannabis plants and extraction methods used to produce the cannabis oil shall be performed in a manner deemed safe and effective based on current standards or scientific literature.

C. Any Cannabis plant, seed, parts of plant, extract, or cannabis oil not in compliance with this section shall be deemed adulterated.

D. A pharmaceutical processor may acquire oil from industrial hemp extract for the purpose of formulating such oil extract with cannabis plant extract into allowable dosages of cannabis oil provided:

1. The pharmaceutical processor acquires the oil from industrial hemp extract processed in Virginia and in compliance with state or federal law from a registered industrial hemp dealer or processor;
2. The oil from industrial hemp acquired by a pharmaceutical processor is subject to the same third-party testing requirements applicable to cannabis plant extract as verified by testing performed by a laboratory located in Virginia and in compliance with state law; and
3. The industrial hemp dealer or processor provides such third-party testing results to the pharmaceutical processor before oil from industrial hemp is acquired.

E. A pharmaceutical processor acquiring oil from industrial hemp extract shall ensure receipt of a record of the transaction that shows the date of distribution, the names and addresses of the registered industrial hemp dealer or processor distributing the product and the pharmaceutical processor receiving the product, and the kind and quantity of product being distributed. The record of the transaction shall be maintained by the pharmaceutical processor with its records of receipt. Such records shall be maintained by each pharmaceutical processor for three years.

F. A pharmaceutical processor shall maintain policies and procedures for the proper storage and handling of oil from industrial hemp extract, to include a process for executing or responding to mandatory and voluntary recalls in a manner that complies with 18VAC110-60-250.

G. No cannabis oil intended to be vaporized or inhaled shall contain vitamin E acetate.

VA.R. Doc. No. R21-6250; Filed April 21, 2021; 2:48 p.m.

Regulations

BOARD OF COUNSELING

Final Regulation

Titles of Regulations: 18VAC115-20. **Regulations Governing the Practice of Professional Counseling (amending 18VAC115-20-10, 18VAC115-20-20, 18VAC115-20-40, 18VAC115-20-52, 18VAC115-20-70, 18VAC115-20-100.**

18VAC115-50. Regulations Governing the Practice of Marriage and Family Therapy (amending 18VAC115-50-10, 18VAC115-50-20, 18VAC115-50-30, 18VAC115-50-60, 18VAC115-50-70, 18VAC115-50-90.

18VAC115-60. Regulations Governing the Practice of Licensed Substance Abuse Treatment Practitioners (amending 18VAC115-60-10, 18VAC115-60-20, 18VAC115-60-40, 18VAC115-60-80, 18VAC115-60-90, 18VAC115-60-110.

Statutory Authority: §§ 54.1-2400 and 54.1-3505 of the Code of Virginia.

Effective Date: June 23, 2021.

Agency Contact: Jaime Hoyle, Executive Director, Board of Counseling, 9960 Mayland Drive, Suite 300, Richmond, VA 23233, telephone (804) 367-4406, FAX (804) 527-4435, or email jaime.hoyle@dhp.virginia.gov.

Summary:

The amendments provide for the issuance of a temporary license for a residency in counseling for professional counselors, marriage and family therapists, and substance abuse treatment practitioners, including (i) setting fees for initial and renewal of a resident license, (ii) establishing qualifications for the issuance of a license and for its renewal, (iii) limiting the number of times a resident may renew the temporary license, and (iv) setting a time limit for passage of the licensing examination. There are no changes to the regulatory action from the proposed stage.

Summary of Public Comments and Agency's Response: A summary of comments made by the public and the agency's response may be obtained from the promulgating agency or viewed at the office of the Registrar of Regulations.

18VAC115-20-10. Definitions.

A. The following words and terms when used in this chapter shall have the meaning ascribed to them in § 54.1-3500 of the Code of Virginia:

"Board"

"Counseling"

"Professional counselor"

B. The following words and terms when used in this chapter shall have the following meanings, unless the context clearly indicates otherwise:

"Ancillary counseling services" means activities such as case management, recordkeeping, referral, and coordination of services.

"Applicant" means any individual who has submitted an official application and paid the application fee for licensure as a professional counselor.

"CACREP" means the Council for Accreditation of Counseling and Related Educational Programs.

"Candidate for licensure" means a person who has satisfactorily completed all educational and experience requirements for licensure and has been deemed eligible by the board to sit for its examinations.

"Clinical counseling services" means activities such as assessment, diagnosis, treatment planning, and treatment implementation.

"Competency area" means an area in which a person possesses knowledge and skill and the ability to apply them in the clinical setting.

"CORE" means Council on Rehabilitation Education.

"Exempt setting" means an agency or institution in which licensure is not required to engage in the practice of counseling according to the conditions set forth in § 54.1-3501 of the Code of Virginia.

"Face-to-face" means the in-person delivery of clinical counseling services for a client.

"Group supervision" means the process of clinical supervision of no more than six persons in a group setting provided by a qualified supervisor.

"Internship" means a formal academic course from a regionally accredited college or university in which supervised, practical experience is obtained in a clinical setting in the application of counseling principles, methods, and techniques.

"Jurisdiction" means a state, territory, district, province, or country that has granted a professional certificate or license to practice a profession, use a professional title, or hold oneself out as a practitioner of that profession.

"Nonexempt setting" means a setting that does not meet the conditions of exemption from the requirements of licensure to engage in the practice of counseling as set forth in § 54.1-3501 of the Code of Virginia.

"Regional accrediting agency" means one of the regional accreditation agencies recognized by the U.S. Secretary of Education responsible for accrediting senior postsecondary institutions.

"Residency" means a postgraduate, supervised, clinical experience ~~registered with the board.~~

"Resident" means an individual who has ~~submitted~~ a supervisory contract and has ~~received board approval~~ been issued a temporary license by the board to provide clinical services in professional counseling under supervision.

"Supervision" means the ongoing process performed by a supervisor who monitors the performance of the person supervised and provides regular, documented individual or group consultation, guidance, and instruction that is specific to the clinical counseling services being performed with respect to the clinical skills and competencies of the person supervised.

"Supervisory contract" means an agreement that outlines the expectations and responsibilities of the supervisor and resident in accordance with regulations of the board.

18VAC115-20-20. Fees required by the board.

A. The board has established the following fees applicable to licensure as a professional counselor or a resident in counseling:

Active annual license renewal	\$130
Inactive annual license renewal	\$65
Initial licensure by examination: Application processing and initial licensure <u>as a professional counselor</u>	\$175
Initial licensure by endorsement: Application processing and initial licensure <u>as a professional counselor</u>	\$175
Registration of supervision <u>Application and initial licensure as a resident in counseling</u>	\$65
Add or change supervisor <u>Pre-review of education only</u>	\$30 \$75
Duplicate license	\$10
Verification of licensure to another jurisdiction	\$30
<u>Active annual license renewal for a professional counselor</u>	\$130
<u>Inactive annual license renewal for a professional counselor</u>	\$65
<u>Annual renewal for a resident in counseling</u>	\$30
Late renewal <u>for a professional counselor</u>	\$45
<u>Late renewal for a resident in counseling</u>	\$10
Reinstatement of a lapsed license <u>for a professional counselor</u>	\$200
<u>Reinstatement following revocation or suspension</u>	\$600
Replacement of or additional wall certificate	\$25

Returned check or dishonored credit or debit card	\$50
Reinstatement following revocation or suspension	\$600

B. All fees are nonrefundable.

C. Examination fees shall be determined and made payable as determined by the board.

Part II

Requirements for Licensure as a Professional Counselor

18VAC115-20-40. Prerequisites for licensure by examination.

Every applicant for licensure examination by the board shall:

1. Meet the degree program requirements prescribed in 18VAC115-20-49, the ~~course work~~ coursework requirements prescribed in 18VAC115-20-51, and the experience requirements prescribed in 18VAC115-20-52;
2. Pass the licensure examination specified by the board;
3. Submit the following to the board:
 - a. A completed application;
 - b. Official transcripts documenting the applicant's completion of the degree program and coursework requirements prescribed in 18VAC115-20-49 and 18VAC115-20-51. Transcripts previously submitted for ~~registration of supervision~~ board approval of a resident license do not have to be resubmitted unless additional coursework was subsequently obtained;
 - c. Verification of ~~Supervision~~ supervision forms documenting fulfillment of the residency requirements of 18VAC115-20-52 and copies of all required evaluation forms, including verification of current licensure of the supervisor if any portion of the residency occurred in another jurisdiction;
 - d. Verification of any other mental health or health professional license or certificate ever held in another jurisdiction;
 - e. The application processing and initial licensure fee as prescribed in 18VAC115-20-20; and
 - f. A current report from the U.S. Department of Health and Human Services National Practitioner Data Bank (NPDB); and
4. Have no unresolved disciplinary action against a mental health or health professional license or certificate held in Virginia or in another jurisdiction. The board will consider history of disciplinary action on a case-by-case basis.

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18VAC115-20-52. Residency Resident license and requirements for a residency.

A. Registration Resident license. Applicants ~~who render for temporary licensure as a resident in counseling services~~ shall:

1. ~~With their supervisor, register their supervisory contract on the appropriate forms for board approval before starting to practice under supervision~~ Apply for licensure on a form provided by the board to include the following: (i) verification of a supervisory contract, (ii) the name and licensure number of the clinical supervisor and location for the supervised practice, and (iii) an attestation that the applicant will be providing clinical counseling services;

2. Have submitted an official transcript documenting a graduate degree ~~as that meets the requirements~~ specified in 18VAC115-20-49 to include completion of the coursework and internship requirement specified in 18VAC115-20-51; ~~and~~

3. Pay the registration fee;

4. Submit a current report from the U.S. Department of Health and Human Services National Practitioner Data Bank (NPDB); and

5. Have no unresolved disciplinary action against a mental health or health professional license, certificate, or registration in Virginia or in another jurisdiction. The board will consider the history of disciplinary action on a case-by-case basis.

B. Residency requirements.

1. The applicant for licensure as a professional counselor shall have completed a 3,400-hour supervised residency in the role of a professional counselor working with various populations, clinical problems, and theoretical approaches in the following areas:

- a. Assessment and diagnosis using psychotherapy techniques;
- b. Appraisal, evaluation, and diagnostic procedures;
- c. Treatment planning and implementation;
- d. Case management and recordkeeping;
- e. Professional counselor identity and function; and
- f. Professional ethics and standards of practice.

2. The residency shall include a minimum of 200 hours of in-person supervision between supervisor and resident in the consultation and review of clinical counseling services provided by the resident. Supervision shall occur at a minimum of one hour and a maximum of four hours per 40 hours of work experience during the period of the residency. For the purpose of meeting the 200-hour supervision requirement, in-person may include the use of secured technology that maintains client confidentiality and provides real-time, visual contact between the supervisor and the

resident. Up to 20 hours of the supervision received during the supervised internship may be counted ~~towards~~ toward the 200 hours of in-person supervision if the supervision was provided by a licensed professional counselor.

3. No more than half of the 200 hours may be satisfied with group supervision. One hour of group supervision will be deemed equivalent to one hour of individual supervision.

4. Supervision that is not concurrent with a residency will not be accepted, nor will residency hours be accrued in the absence of approved supervision.

5. The residency shall include at least 2,000 hours of face-to-face client contact in providing clinical counseling services. The remaining hours may be spent in the performance of ancillary counseling services.

6. A graduate-level internship in excess of 600 hours, which was completed in a program that meets the requirements set forth in 18VAC115-20-49, may count for up to an additional 300 hours ~~towards~~ toward the requirements of a residency.

7. Supervised practicum and internship hours in a CACREP-accredited doctoral counseling program may be accepted for up to 900 hours of the residency requirement and up to 100 of the required hours of supervision provided the supervisor holds a current, unrestricted license as a professional counselor.

8. The residency shall be completed in not less than 21 months or more than four years. Residents who began a residency before August 24, 2016, shall complete the residency by August 24, 2020. An individual who does not complete the residency after four years shall submit evidence to the board showing why the supervised experience should be allowed to continue. A resident shall meet the renewal requirements of subsection C of 18VAC115-20-100 in order to maintain a license in current, active status.

9. The board may consider special requests in the event that the regulations create an undue burden in regard to geography or disability that limits the resident's access to qualified supervision.

10. Residents may not call themselves professional counselors, directly bill for services rendered, or in any way represent themselves as independent, autonomous practitioners or professional counselors. During the residency, residents shall use their names and the initials of their degree, and the title "Resident in Counseling" in all written communications. Clients shall be informed in writing ~~of the resident's status that the resident does not have authority for independent practice and is under supervision~~ and shall provide the supervisor's name, professional address, and phone number.

11. Residents shall not engage in practice under supervision in any areas for which they have not had appropriate education.

12. Residency hours approved by the licensing board in another United States jurisdiction that meet the requirements of this section shall be accepted.

C. Supervisory qualifications. A person who provides supervision for a resident in professional counseling shall:

1. Document two years of post-licensure clinical experience;
2. Have received professional training in supervision, consisting of three credit hours or 4.0 quarter hours in graduate-level coursework in supervision or at least 20 hours of continuing education in supervision offered by a provider approved under 18VAC115-20-106; and
3. Hold an active, unrestricted license as a professional counselor or a marriage and family therapist in the jurisdiction where the supervision is being provided. At least 100 hours of the supervision shall be rendered by a licensed professional counselor. Supervisors who are substance abuse treatment practitioners, school psychologists, clinical psychologists, clinical social workers, or psychiatrists and have been approved to provide supervision may continue to do so until August 24, 2017.

D. Supervisory responsibilities.

1. Supervision by any individual whose relationship to the resident compromises the objectivity of the supervisor is prohibited.
2. The supervisor of a resident shall assume full responsibility for the clinical activities of that resident specified within the supervisory contract for the duration of the residency.
3. The supervisor shall complete evaluation forms to be given to the resident at the end of each three-month period.
4. The supervisor shall report the total hours of residency and shall evaluate the applicant's competency in the six areas stated in subdivision B 1 of this section.
5. The supervisor shall provide supervision as defined in 18VAC115-20-10.

E. Applicants shall document successful completion of their residency on the Verification of Supervision Form at the time of application. Applicants must receive a satisfactory competency evaluation on each item on the evaluation sheet. Supervised experience obtained prior to April 12, 2000, may be accepted toward licensure if this supervised experience met the board's requirements that were in effect at the time the supervision was rendered.

18VAC115-20-70. General examination requirements; schedules; time limits.

A. Every applicant for initial licensure by examination by the board as a professional counselor shall pass a written examination as prescribed by the board. An applicant is required to have passed the prescribed examination within six years from the date of initial issuance of a resident license by the board.

B. Every applicant for licensure by endorsement shall have passed a licensure examination in the jurisdiction in which licensure was obtained.

~~C. A candidate approved to sit for the examination shall pass the examination within two years from the date of such initial approval. If the candidate has not passed the examination by the end of the two-year period here prescribed:~~

- ~~1. The initial approval to sit for the examination shall then become invalid; and~~
- ~~2. The applicant shall file a new application with the board, meet the requirements in effect at that time, and provide evidence of why the board should approve the reapplication for examination. If approved by the board, the applicant shall pass the examination within two years of such approval. If the examination is not passed within the additional two-year period, a new application will not be accepted.~~

~~D. C.~~ The board shall establish a passing score on the written examination.

~~E. D.~~ A candidate for examination or an applicant shall not provide clinical counseling services unless he is under supervision approved by the board resident shall remain in a residency practicing under supervision until the resident has passed the licensure examination and been granted a license as a professional counselor.

18VAC115-20-100. Annual renewal of licensure.

~~A. All licensees shall renew licenses on or before June 30 of each year.~~

~~B. A.~~ Every ~~license holder~~ licensed professional counselor who intends to continue an active practice shall submit to the board on or before June 30 of each year:

1. A completed form for renewal of the license on which the licensee attests to compliance with the continuing competency requirements prescribed in this chapter; and
2. The renewal fee prescribed in 18VAC115-20-20.

~~C. B.~~ A licensee licensed professional counselor who wishes to place his license in an inactive status may do so upon payment of the inactive renewal fee as established in 18VAC115-20-20. No person shall practice counseling in Virginia unless he holds a current active license. A licensee who has placed himself in inactive status may become active

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by fulfilling the reactivation requirements set forth in subsection C of 18VAC115-20-110 E.

C. For renewal of a resident license in counseling, the following shall apply:

1. A resident license shall expire annually in the month the resident license was initially issued and may be renewed up to five times by submission of the renewal form and payment of the fee prescribed in 18VAC115-20-20.

2. On the annual renewal, the resident shall attest that a supervisory contract is in effect with a board-approved supervisor for each of the locations at which the resident is currently providing clinical counseling services.

3. On the annual renewal, the resident in counseling shall attest to completion of three hours in continuing education courses that emphasize the ethics, standards of practice, or laws governing behavioral science professions in Virginia, offered by an approved provider as set forth in subsection B of 18VAC115-20-106.

D. Licensees shall notify the board of a change in the address of record or the public address, if different from the address of record within 60 days. Failure to receive a renewal notice from the board shall not relieve the license holder from the renewal requirement.

NOTICE: The following forms used in administering the regulation have been filed by the agency. Amended or added forms are reflected in the listing and are published following the listing. Online users of this issue of the Virginia Register of Regulations may also click on the name to access a form. The forms are also available from the agency contact or may be viewed at the Office of Registrar of Regulations, 900 East Main Street, 11th Floor, Richmond, Virginia 23219.

FORMS (18VAC115-20)

[Registration of Supervision - Post Graduate Degree Supervised Experience, LPC Form 1 \(rev. 2/2011\)](#)

[Quarterly Evaluation, LPC Form 1-QE \(rev. 2/2011\)](#)

[Licensure Verification of Out-of-State Supervisor, LPC Form 1-LV \(rev. 2/2011\)](#)

[Licensure Application, LPC Form 2 \(rev. 2/2011\)](#)

[Verification of Supervision – Post-Graduate Degree Supervised Experience, LPC Form 2-VS \(rev. 2/2011\)](#)

[Coursework Outline Form, LPC Form 2-CO \(rev. 2/2011\)](#)

[Verification of Internship Hours Towards the Residency, LPC Form 2-IR \(rev. 2/2011\)](#)

[Verification of Internship, LPC Form 2-VI \(rev. 2/2011\)](#)

[Verification of Licensure, LPC Form 2-VL \(rev. 2/2011\)](#)

[Supervision Outline - Examination Applicants Only, LPC Form 2-SO \(rev. 2/2011\)](#)

[Verification of Clinical Practice, 5 of Last 6 Years Immediately Preceding Submission of Application for Licensure, LPC Form-ECP \(rev. 2/2011\)](#)

[Continuing Education Summary Form \(LPC\) \(rev. 3/2009\)](#)

[Application for Reinstatement of a Lapsed License \(rev. 8/2007\)](#)

[Application for Reinstatement of a Revoked, Suspended, or Surrendered License \(rev. 8/2007\)](#)

[Application Instructions for Temporary Licensure as a Resident in Counseling \(rev. 12/2019\)](#)

18VAC115-50-10. Definitions.

A. The following words and terms when used in this chapter shall have the meaning ascribed to them in § 54.1-3500 of the Code of Virginia: (i) "board," (ii) "marriage and family therapy," (iii) "marriage and family therapist," and (iv) "practice of marriage and family therapy."

B. The following words and terms when used in this chapter shall have the following meanings, unless the context clearly indicates otherwise:

"Ancillary counseling services" means activities such as case management, recordkeeping, referral, and coordination of services.

"CACREP" means the Council for Accreditation of Counseling and Related Educational Programs.

"COAMFTE" means the Commission on Accreditation for Marriage and Family Therapy Education.

"Clinical marriage and family services" means activities such as assessment, diagnosis, and treatment planning and treatment implementation for couples and families.

"Face-to-face" means the in-person delivery of clinical marriage and family services for a client.

"Internship" means a formal academic course from a regionally accredited university in which supervised practical experience is obtained in a clinical setting in the application of counseling principles, methods, and techniques.

"Regional accrediting agency" means one of the regional accreditation agencies recognized by the U.S. Secretary of Education as responsible for accrediting senior post-secondary institutions and training programs.

"Residency" means a postgraduate, supervised, clinical experience ~~registered with the board.~~

"Resident" means an individual who has ~~submitted~~ a supervisory contract ~~to the board~~ and has ~~received~~ been issued a temporary license by the board approval to provide clinical services in marriage and family therapy under supervision.

"Supervision" means an ongoing process performed by a supervisor who monitors the performance of the person

supervised and provides regular, documented, individual or group consultation, guidance, and instruction with respect to the clinical skills and competencies of the person or persons being supervised.

"Supervisory contract" means an agreement that outlines the expectations and responsibilities of the supervisor and resident in accordance with regulations of the board.

18VAC115-50-20. Fees.

A. The board has established fees for the following:

Registration of supervision <u>Application and initial licensure as a resident</u>	\$65
Add or change supervisor <u>Pre-review of education only</u>	\$30 \$75
Initial licensure by examination: Processing and initial licensure <u>as a marriage and family therapist</u>	\$175
Initial licensure by endorsement: Processing and initial licensure <u>as a marriage and family therapist</u>	\$175
Active annual license renewal <u>for a marriage and family therapist</u>	\$130
Inactive annual license renewal <u>for a marriage and family therapist</u>	\$65
<u>Annual renewal for a resident in marriage and family therapy</u>	\$30
Penalty for late renewal <u>for a marriage and family therapist</u>	\$45
<u>Late renewal for resident in marriage and family therapy</u>	\$10
Reinstatement of a lapsed license <u>for a marriage and family therapist</u>	\$200
Verification of license to another jurisdiction	\$30
Additional or replacement licenses	\$10
Additional or replacement wall certificates	\$25
Returned check or dishonored credit or debit card	\$50
Reinstatement following revocation or suspension	\$600

B. All fees are nonrefundable.

C. Examination fees shall be determined and made payable as determined by the board.

18VAC115-50-30. Application for licensure as a marriage and family therapist by examination.

Every applicant for licensure by examination by the board shall:

1. Meet the education and experience requirements prescribed in 18VAC115-50-50, 18VAC115-50-55, and 18VAC115-50-60;
2. Meet the examination requirements prescribed in 18VAC115-50-70;
3. Submit to the board office the following items:
 - a. A completed application;
 - b. The application processing and initial licensure fee prescribed in 18VAC115-50-20;
 - c. Documentation, on the appropriate forms, of the successful completion of the residency requirements of 18VAC115-50-60 along with documentation of the supervisor's out-of-state license where applicable;
 - d. Official ~~transcript or~~ transcripts submitted from the appropriate institutions of higher education, verifying satisfactory completion of the education requirements set forth in 18VAC115-50-50 and 18VAC115-50-55. Previously submitted transcripts for ~~registration of supervision board approval of a resident license~~ do not have to be resubmitted unless additional coursework was subsequently obtained;
 - e. Verification on a board-approved form of any mental health or health out-of-state license, certification, or registration ever held in another jurisdiction; and
 - f. A current report from the U.S. Department of Health and Human Services National Practitioner Data Bank (NPDB); and
4. Have no unresolved disciplinary action against a mental health or health professional license or certificate held in Virginia or in another jurisdiction. The board will consider history of disciplinary action on a case-by-case basis.

18VAC115-50-60. ~~Residency~~ Resident license and requirements for a residency.

A. ~~Registration~~ Resident license. Applicants ~~who render for temporary licensure as a resident in marriage and family therapy services~~ shall:

1. ~~With their supervisor, register their supervisory contract on the appropriate forms for board approval before starting to practice under supervision~~ Apply for licensure on a form provided by the board to include the following: (i) verification of a supervisory contract, (ii) the name and licensure number of the supervisor and location for the supervised practice, and (iii) an attestation that the applicant will be providing marriage and family services.

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2. Have submitted an official transcript documenting a graduate degree as that meets the requirements specified in 18VAC115-50-50 to include completion of the coursework and internship requirement specified in 18VAC115-50-55; ~~and~~

3. Pay the registration fee;

4. Submit a current report from the U.S. Department of Health and Human Services National Practitioner Data Bank (NPDB); and

5. Have no unresolved disciplinary action against a mental health or health professional license, certificate, or registration in Virginia or in another jurisdiction. The board will consider the history of disciplinary action on a case-by-case basis.

B. Residency requirements.

1. The applicant for licensure as a marriage and family therapist shall have completed no fewer than 3,400 hours of supervised residency in the role of a marriage and family therapist, to include 200 hours of in-person supervision with the supervisor in the consultation and review of marriage and family services provided by the resident. For the purpose of meeting the 200 hours of supervision required for a residency, in-person may also include the use of technology that maintains client confidentiality and provides real-time, visual contact between the supervisor and the resident. At least one-half of the 200 hours of supervision shall be rendered by a licensed marriage and family therapist.

a. Residents shall receive a minimum of one hour and a maximum of four hours of supervision for every 40 hours of supervised work experience.

b. No more than 100 hours of the supervision may be acquired through group supervision, with the group consisting of no more than six residents. One hour of group supervision will be deemed equivalent to one hour of individual supervision.

c. Up to 20 hours of the supervision received during the supervised internship may be counted towards the 200 hours of in-person supervision if the supervision was provided by a licensed marriage and family therapist or a licensed professional counselor.

2. The residency shall include documentation of at least 2,000 hours in clinical marriage and family services of which 1,000 hours shall be face-to-face client contact with couples or families or both. The remaining hours may be spent in the performance of ancillary counseling services. For applicants who hold current, unrestricted licensure as a professional counselor, clinical psychologist, or clinical social worker, the remaining hours may be waived.

3. The residency shall consist of practice in the core areas set forth in 18VAC115-50-55.

4. The residency shall begin after the completion of a master's degree in marriage and family therapy or a related discipline as set forth in 18VAC115-50-50.

5. A graduate-level internship in excess of 600 hours, which was completed in a program that meets the requirements set forth in 18VAC115-50-50, may count for up to an additional 300 hours towards the requirements of a residency.

6. Supervised practicum and internship hours in a COAMFTE-accredited or a CACREP-accredited doctoral program in marriage and family therapy or counseling may be accepted for up to 900 hours of the residency requirement and up to 100 of the required hours of supervision provided the supervisor holds a current, unrestricted license as a marriage and family therapist or professional counselor.

7. The board may consider special requests in the event that the regulations create an undue burden in regard to geography or disability ~~which that~~ limits the resident's access to qualified supervision.

8. Residents shall not call themselves marriage and family therapists, directly bill for services rendered, or in any way represent themselves as marriage and family therapists. During the residency, residents may use their names, the initials of their degree, and the title "Resident in Marriage and Family Therapy." Clients shall be informed in writing ~~of the resident's status that the resident does not have authority for independent practice and is under supervision,~~ along with the name, address, and telephone number of the resident's supervisor.

9. Residents shall not engage in practice under supervision in any areas for which they do not have appropriate education.

10. The residency shall be completed in not less than 21 months or more than four years. Residents who began a residency before August 24, 2016, shall complete the residency by August 24, 2020. An individual who does not complete the residency after four years shall submit evidence to the board showing why the supervised experience should be allowed to continue. A resident shall meet the renewal requirements of subsection C of 18VAC115-50-90 in order to maintain a resident license in current, active status.

11. Residency hours that are approved by the licensing board in another United States jurisdiction and that meet the requirements of this section shall be accepted.

C. Supervisory qualifications. A person who provides supervision for a resident in marriage and family therapy shall:

1. Hold an active, unrestricted license as a marriage and family therapist or professional counselor in the jurisdiction where the supervision is being provided;

2. Document two years post-licensure marriage and family therapy experience; and

3. Have received professional training in supervision, consisting of three credit hours or 4.0 quarter hours in graduate-level coursework in supervision or at least 20 hours of continuing education in supervision offered by a provider approved under 18VAC115-50-96. At least one-half of the 200 hours of supervision shall be rendered by a licensed marriage and family therapist. Supervisors who are clinical psychologists, clinical social workers, or psychiatrists and have been approved to provide supervision may continue to do so until August 24, 2017.

D. Supervisory responsibilities.

1. The supervisor shall complete evaluation forms to be given to the resident at the end of each three-month period. The supervisor shall report the total hours of residency and evaluate the applicant's competency to the board.

2. Supervision by an individual whose relationship to the resident is deemed by the board to compromise the objectivity of the supervisor is prohibited.

3. The supervisor shall provide supervision as defined in 18VAC115-50-10 and shall assume full responsibility for the clinical activities of residents as specified within the supervisory contract; for the duration of the residency.

18VAC115-50-70. General examination requirements.

A. All applicants for initial licensure shall pass an examination, as prescribed by the board, with a passing score as determined by the board. The examination is waived for an applicant who holds a current and unrestricted license as a professional counselor issued by the board.

~~B. The examination shall concentrate on the core areas of marriage and family therapy set forth in subsection A of 18VAC115-50-55. An applicant is required to pass the prescribed examination within six years from the date of initial issuance of a resident license by the board.~~

~~C. A candidate approved to sit for the examination shall pass the examination within two years from the initial notification date of approval. If the candidate has not passed the examination within two years from the date of initial approval:~~

~~1. The initial approval to sit for the examination shall then become invalid; and~~

~~2. The applicant shall file a new application with the board, meet the requirements in effect at that time, and provide evidence of why the board should approve the reapplication for examination. If approved by the board, the candidate shall pass the examination within two years of such approval. If the examination is not passed within the additional two year period, a new application will not be accepted.~~

~~D. Applicants or candidates for examination shall not provide marriage and family services unless they are under supervision approved by the board.~~ C. A resident shall remain in a residency practicing under supervision until the resident has passed the licensure examination and been granted a license as a marriage and family therapist.

18VAC115-50-90. Annual renewal of license.

~~A. All licensees shall renew licenses on or before June 30 of each year.~~

~~B. A~~ A. All licensees licensed marriage and family therapists who intend to continue an active practice shall submit to the board on or before June 30 of each year:

1. A completed form for renewal of the license on which the licensee attests to compliance with the continuing competency requirements prescribed in this chapter; and

2. The renewal fee prescribed in 18VAC115-50-20.

~~C. B. A licensee licensed marriage and family therapist who wishes to place his license in an inactive status may do so upon payment of the inactive renewal fee as established in 18VAC115-50-20. No person shall practice marriage and family therapy in Virginia unless he holds a current active license. A licensee who has placed himself in inactive status may become active by fulfilling the reactivation requirements set forth in 18VAC115-50-100 C.~~

C. For renewal of a resident license in marriage and family therapy, the following shall apply:

1. A resident license shall expire annually in the month the license was initially issued and may be renewed up to five times by submission of the renewal form and payment of the fee prescribed in 18VAC115-50-20.

2. On the annual renewal, the resident shall attest that a supervisory contract is in effect with a board-approved supervisor for each of the locations at which the resident is currently providing marriage and family therapy.

3. On the annual renewal, residents in marriage and family therapy shall attest to completion of three hours in continuing education courses that emphasize the ethics, standards of practice, or laws governing behavioral science professions in Virginia, offered by an approved provider as set forth in subsection B of 18VAC115-50-96.

D. Licensees shall notify the board of a change in the address of record or the public address, if different from the address of record within 60 days. Failure to receive a renewal notice from the board shall not relieve the license holder from the renewal requirement.

E. After the renewal date, the license is expired; practice with an expired license is prohibited and may constitute grounds for disciplinary action.

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NOTICE: The following forms used in administering the regulation have been filed by the agency. Amended or added forms are reflected in the listing and are published following the listing. Online users of this issue of the Virginia Register of Regulations may also click on the name to access a form. The forms are also available from the agency contact or may be viewed at the Office of Registrar of Regulations, 900 East Main Street, 11th Floor, Richmond, Virginia 23219.

FORMS (18VAC115-50)

[Licensure Application - Marriage and Family Therapist, MFT Form 2 \(rev. 2/2011\)](#)

[Verification of Licensure, MFT Form 2-VL \(rev. 2/2011\)](#)

[Verification of Supervision – Post-Graduate Degree Supervised Experience, MFT Form 2-VS \(rev. 2/2011\)](#)

[Licensure Verification of Out-of-State Supervisor, MFT Form 1-LV \(rev. 2/2011\)](#)

[Quarterly Evaluation, MFT Form 1-QE \(rev. 2/2011\)](#)

[Coursework Outline Form, MFT Form 2-CO \(rev. 2/2011\)](#)

[Verification of Internship, MFT Form 2-VI \(rev. 2/2011\)](#)

[Verification of Internship Hours Towards the Residency, MFT Form 2-IR \(rev. 2/2011\)](#)

[Supervision Outline - Examination Applicants Only, MFT Form 2-SO \(rev. 2/2011\)](#)

[Verification of Clinical Practice 5 of Last 6 Years Immediately Preceding Submission for Application of Licensure, Endorsement Applicants Only, Form MFT-ECP \(rev. 2/2011\)](#)

[Registration of Supervision - Post Graduate Degree Supervised Experience, MFT Form 1 \(rev. 2/2011\)](#)

[Application for Reinstatement of a Lapsed License \(rev. 8/2007\)](#)

[Continuing Education Summary Form \(LMFT\) \(rev. 3/2009\)](#)

[Applications Instructions - Temporary Licensure as a Resident in Marriage and Family Therapy \(rev. 12/2019\)](#)

18VAC115-60-10. Definitions.

A. The following words and terms when used in this chapter shall have the meaning ascribed to them in § 54.1-3500 of the Code of Virginia:

"Board"

"Licensed substance abuse treatment practitioner"

"Substance abuse"

"Substance abuse treatment"

B. The following words and terms when used in this chapter shall have the following meanings, unless the context clearly indicates otherwise:

"Ancillary services" means activities such as case management, recordkeeping, referral, and coordination of services.

"Applicant" means any individual who has submitted an official application and paid the application fee for licensure as a substance abuse treatment practitioner.

"CACREP" means the Council for Accreditation of Counseling and Related Educational Programs.

"Candidate for licensure" means a person who has satisfactorily completed all educational and experience requirements for licensure and has been deemed eligible by the board to sit for its examinations.

"Clinical substance abuse treatment services" means activities such as assessment, diagnosis, treatment planning, and treatment implementation.

"COAMFTE" means the Commission on Accreditation for Marriage and Family Therapy Education.

"Competency area" means an area in which a person possesses knowledge and skill and the ability to apply them in the clinical setting.

"Exempt setting" means an agency or institution in which licensure is not required to engage in the practice of substance abuse treatment according to the conditions set forth in § 54.1-3501 of the Code of Virginia.

"Face-to-face" means the in-person delivery of clinical substance abuse treatment services for a client.

"Group supervision" means the process of clinical supervision of no more than six persons in a group setting provided by a qualified supervisor.

"Internship" means a formal academic course from a regionally accredited university in which supervised, practical experience is obtained in a clinical setting in the application of counseling principles, methods, and techniques.

"Jurisdiction" means a state, territory, district, province, or country ~~which that~~ has granted a professional certificate or license to practice a profession, use a professional title, or hold oneself out as a practitioner of that profession.

"Nonexempt setting" means a setting ~~which that~~ does not meet the conditions of exemption from the requirements of licensure to engage in the practice of substance abuse treatment as set forth in § 54.1-3501 of the Code of Virginia.

"Regional accrediting agency" means one of the regional accreditation agencies recognized by the U.S. Secretary of Education responsible for accrediting senior postsecondary institutions.

"Residency" means a postgraduate, supervised, clinical experience ~~registered with the board.~~

"Resident" means an individual who has ~~submitted a supervisory contract and has received board approval~~ been issued a temporary license by the board to provide clinical services in substance abuse treatment under supervision.

"Supervision" means the ongoing process performed by a supervisor who monitors the performance of the person supervised and provides regular, documented individual or group consultation, guidance, and instruction with respect to the clinical skills and competencies of the person supervised.

"Supervisory contract" means an agreement that outlines the expectations and responsibilities of the supervisor and resident in accordance with regulations of the board.

18VAC115-60-20. Fees required by the board.

A. The board has established the following fees applicable to licensure as a substance abuse treatment practitioner or resident in substance abuse treatment:

Registration of supervision (initial) <u>Application and initial licensure as a resident in substance abuse treatment</u>	\$65
Add/change supervisor <u>Pre-review of education only</u>	\$30 \$75
Initial licensure by examination: Processing and initial licensure <u>as a substance abuse treatment practitioner</u>	\$175
Initial licensure by endorsement: Processing and initial licensure <u>as a substance abuse treatment practitioner</u>	\$175
Active annual license renewal <u>for a substance abuse treatment practitioner</u>	\$130
Inactive annual license renewal <u>for a substance abuse treatment practitioner</u>	\$65
<u>Annual renewal for a resident in substance abuse treatment</u>	\$30
Duplicate license	\$10
Verification of license to another jurisdiction	\$30
Late renewal <u>for a substance abuse treatment practitioner</u>	\$45
<u>Late renewal for a resident in substance abuse treatment</u>	\$10
Reinstatement of a lapsed license <u>of a substance abuse treatment practitioner</u>	\$200
Replacement of or additional wall certificate	\$25

Returned check or dishonored credit or debit card	\$50
Reinstatement following revocation or suspension	\$600

B. All fees are nonrefundable.

C. Examination fees shall be determined and made payable as determined by the board.

Part II

Requirements for Licensure as a Substance Abuse Treatment Practitioner

18VAC115-60-40. Application for licensure by examination.

Every applicant for licensure by examination by the board shall:

1. Meet the degree program, coursework, and experience requirements prescribed in 18VAC115-60-60, 18VAC115-60-70, and 18VAC115-60-80;
2. Pass the examination required for initial licensure as prescribed in 18VAC115-60-90;
3. Submit the following items to the board:
 - a. A completed application;
 - b. Official transcripts documenting the applicant's completion of the degree program and coursework requirements prescribed in 18VAC115-60-60 and 18VAC115-60-70. Transcripts previously submitted for ~~registration of supervision~~ board approval of a resident license do not have to be resubmitted unless additional coursework was subsequently obtained;
 - c. Verification of supervision forms documenting fulfillment of the residency requirements of 18VAC115-60-80 and copies of all required evaluation forms, including verification of current licensure of the supervisor of any portion of the residency occurred in another jurisdiction;
 - d. Documentation of any other mental health or health professional license or certificate ever held in another jurisdiction;
 - e. The application processing and initial licensure fee as prescribed in 18VAC115-60-20; and
 - f. A current report from the U.S. Department of Health and Human Services National Practitioner Data Bank (NPDB); and
4. Have no unresolved disciplinary action against a mental health or health professional license or certificate held in Virginia or in another jurisdiction. The board will consider history of disciplinary action on a case-by-case basis.

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18VAC115-60-80. Residency Resident license and requirements for a residency.

A. ~~Registration~~ Licensure. Applicants ~~who render for a temporary resident license in substance abuse treatment services shall:~~

1. ~~With their supervisor, register their supervisory contract on the appropriate forms for board approval before starting to practice under supervision~~ Apply for licensure on a form provided by the board to include the following: (i) verification of a supervisory contract, (ii) the name and licensure number of the supervisor and location for the supervised practice, and (iii) an attestation that the applicant will be providing substance abuse treatment services;
2. Have submitted an official transcript documenting a graduate degree ~~as that meets the requirements~~ specified in 18VAC115-60-60 to include completion of the coursework and internship requirement specified in 18VAC115-60-70; ~~and~~
3. Pay the registration fee;
4. Submit a current report from the U.S. Department of Health and Human Services National Practitioner Data Bank (NPDB); and
5. Have no unresolved disciplinary action against a mental health or health professional license, certificate, or registration in Virginia or in another jurisdiction. The board will consider the history of disciplinary action on a case-by-case basis.

B. Applicants who are beginning their residencies in exempt settings shall register supervision with the board to assure acceptability at the time of application.

C. Residency requirements.

1. The applicant for licensure as a substance abuse treatment practitioner shall have completed no fewer than 3,400 hours in a supervised residency in substance abuse treatment with various populations, clinical problems and theoretical approaches in the following areas:
 - a. Clinical evaluation;
 - b. Treatment planning, documentation, and implementation;
 - c. Referral and service coordination;
 - d. Individual and group counseling and case management;
 - e. Client family and community education; and
 - f. Professional and ethical responsibility.
2. The residency shall include a minimum of 200 hours of in-person supervision between supervisor and resident occurring at a minimum of one hour and a maximum of four hours per 40 hours of work experience during the period of the residency.

- a. No more than half of these hours may be satisfied with group supervision.
 - b. One hour of group supervision will be deemed equivalent to one hour of individual supervision.
 - c. Supervision that is not concurrent with a residency will not be accepted, nor will residency hours be accrued in the absence of approved supervision.
 - d. For the purpose of meeting the 200-hour supervision requirement, in-person supervision may include the use of technology that maintains client confidentiality and provides real-time, visual contact between the supervisor and the resident.
 - e. Up to 20 hours of the supervision received during the supervised internship may be counted towards the 200 hours of in-person supervision if the supervision was provided by a licensed professional counselor.
3. The residency shall include at least 2,000 hours of face-to-face client contact in providing clinical substance abuse treatment services with individuals, families, or groups of individuals suffering from the effects of substance abuse or dependence. The remaining hours may be spent in the performance of ancillary services.
 4. A graduate level degree internship in excess of 600 hours, which is completed in a program that meets the requirements set forth in 18VAC115-60-70, may count for up to an additional 300 hours towards the requirements of a residency.
 5. The residency shall be completed in not less than 21 months or more than four years. Residents who began a residency before August 24, 2016, shall complete the residency by August 24, 2020. An individual who does not complete the residency after four years shall submit evidence to the board showing why the supervised experience should be allowed to continue. A resident shall meet the renewal requirements of subsection C of 18VAC115-60-110 in order to maintain a license in current, active status.
 6. The board may consider special requests in the event that the regulations create an undue burden in regard to geography or disability ~~which that~~ limits the resident's access to qualified supervision.
 7. Residents may not call themselves substance abuse treatment practitioners, directly bill for services rendered, or in any way represent themselves as independent, autonomous practitioners or substance abuse treatment practitioners. During the residency, residents shall use their names and the initials of their degree, and the title "Resident in Substance Abuse Treatment" in all written communications. Clients shall be informed in writing ~~of the resident's status, that the resident does not have authority for independent practice and is under supervision and shall~~

provide the supervisor's name, professional address, and telephone number.

8. Residents shall not engage in practice under supervision in any areas for which they have not had appropriate education.

9. Residency hours that are approved by the licensing board in another United States jurisdiction and that meet the requirements of this section shall be accepted.

D. Supervisory qualifications.

1. A person who provides supervision for a resident in substance abuse treatment shall hold an active, unrestricted license as a professional counselor or substance abuse treatment practitioner in the jurisdiction where the supervision is being provided. Supervisors who are marriage and family therapists, school psychologists, clinical psychologists, clinical social workers, clinical nurse specialists, or psychiatrists and have been approved to provide supervision may continue to do so until August 24, 2017.

2. All supervisors shall document two years post-licensure substance abuse treatment experience and at least 100 hours of didactic instruction in substance abuse treatment. Supervisors must document a three-credit-hour course in supervision, a 4.0-quarter-hour course in supervision, or at least 20 hours of continuing education in supervision offered by a provider approved under 18VAC115-60-116.

E. Supervisory responsibilities.

1. Supervision by any individual whose relationship to the resident compromises the objectivity of the supervisor is prohibited.

2. The supervisor of a resident shall assume full responsibility for the clinical activities of that resident specified within the supervisory contract for the duration of the residency.

3. The supervisor shall complete evaluation forms to be given to the resident at the end of each three-month period.

4. The supervisor shall report the total hours of residency and shall evaluate the applicant's competency in the six areas stated in subdivision C 1 of this section.

F. Documentation of supervision. Applicants shall document successful completion of their residency on the Verification of Supervision form at the time of application. Applicants must receive a satisfactory competency evaluation on each item on the evaluation sheet.

18VAC115-60-90. General examination requirements; schedules; time limits.

A. Every applicant for ~~initial~~ licensure as a substance abuse treatment practitioner by examination shall pass a written examination as prescribed by the board. Such applicant is

required to pass the prescribed examination within six years from the date of initial issuance of a resident license by the board.

B. Every applicant for licensure as a substance abuse treatment practitioner by endorsement shall have passed a substance abuse examination deemed by the board to be substantially equivalent to the Virginia examination.

C. The examination is waived for an applicant who holds a current and unrestricted license as a professional counselor issued by the board.

~~D. A candidate approved by the board to sit for the examination shall pass the examination within two years from the date of such initial board approval. If the candidate has not passed the examination within two years from the date of initial approval:~~

~~1. The initial board approval to sit for the examination shall then become invalid; and~~

~~2. The applicant shall file a complete new application with the board, meet the requirements in effect at that time, and provide evidence of why the board should approve the reapplication for examination. If approved by the board, the applicant shall pass the examination within two years of such approval. If the examination is not passed within the additional two year period, a new application will not be accepted.~~

~~E. D.~~ The board shall establish a passing score on the written examination.

~~F. A candidate for examination or an applicant shall not provide clinical services unless he is under supervision approved by the board. E. A resident shall remain in a residency practicing under supervision until the resident has passed the licensure examination and been granted a license as a substance abuse treatment practitioner.~~

18VAC115-60-110. Renewal of licensure.

~~A. All licensees shall renew licenses on or before June 30 of each year.~~

~~B. A.~~ Every license holder substance abuse treatment practitioner who intends to continue an active practice shall submit to the board on or before June 30 of each year:

1. A completed form for renewal of the license on which the licensee attests to compliance with the continuing competency requirements prescribed in this chapter; and

2. The renewal fee prescribed in 18VAC115-60-20.

~~C. B.~~ A licensee substance abuse treatment practitioner who wishes to place his license in an inactive status may do so upon payment of the inactive renewal fee as established in 18VAC115-60-20. No person shall practice substance abuse treatment in Virginia unless he holds a current active license. A licensee who has placed himself in inactive status may

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become active by fulfilling the reactivation requirements set forth in [subsection C of 18VAC115-60-120](#) €.

C. For renewal of a resident license in substance abuse treatment, the following shall apply:

1. A resident license shall expire annually in the month the resident license was initially issued and may be renewed up to five times by submission of the renewal form and payment of the fee prescribed in 18VAC115-60-20.

2. On the annual renewal, the resident shall attest that a supervisory contract is in effect with a board-approved supervisor for each of the locations at which the resident is currently providing substance abuse treatment services.

3. On the annual renewal, residents in substance abuse treatment shall attest to completion of three hours in continuing education courses that emphasize the ethics, standards of practice, or laws governing behavioral science professions in Virginia, offered by an approved provider as set forth in subsection B of 18VAC115-60-116.

D. Licensees shall notify the board of a change in the address of record or the public address, if different from the address of record within 60 days. Failure to receive a renewal notice from the board shall not relieve the license holder from the renewal requirement.

E. After the renewal date, the license is expired; practice with an expired license is prohibited and may constitute grounds for disciplinary action.

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FORMS (18VAC115-60)

[Licensure Application, Licensed Substance Abuse Treatment Practitioner, LSATP Form 2 \(rev. 1/2011\)](#)

[Verification of Licensure, Form LSATP 2-VL \(rev. 1/2011\)](#)

[Verification of Supervision – Post Graduate Degree Supervised Experience, LSATP 2-VS \(rev. 1/2011\)](#)

[Supervisor's Experience and Education \(rev. 1/2011\)](#)

[Licensure Verification of Out-of-State Supervisor, LSATP Form 1-LV \(rev. 1/2011\)](#)

[Coursework Outline Form, Form LSATP 2-CO \(rev. 1/2011\)](#)

[Verification of Internship, Form LSATP 2-VI \(rev. 1/2011\)](#)

[Verification of Internship Hours Towards the Residency, Form LSATP 2-IR \(rev. 1/2011\)](#)

[Registration of Supervision – Post Graduate Degree Supervised Experience, LSATP Form 1 \(rev. 1/2011\)](#)

[Quarterly Evaluation Form, LSATP Form 1-QE \(rev. 1/2011\)](#)

[Supervision Outline Form – Examination Applicants Only, Form LSATP 2-SO \(rev. 1/2011\).](#)

[Verification of Post-Licensure Clinical Practice, Endorsement Applicants Only, Form LSATP-ECP \(rev. 1/2011\)](#)

[Licensed Substance Abuse Treatment Practitioner Application for Reinstatement of a Lapsed Certificate \(rev. 7/2011\)](#)

[Continuing Education Summary Form \(LSATP\) \(rev. 3/2009\)](#)

[Application Instructions for Temporary Licensure as a Resident in Substance Abuse Treatment \(rev. 12/2019\)](#)

VA.R. Doc. No. R20-6111; Filed April 21, 2021, 2:46 p.m.

BOARD OF PSYCHOLOGY

Final Regulation

Title of Regulation: 18VAC125-20. Regulations Governing the Practice of Psychology (amending 18VAC125-20-10, 18VAC125-20-41, 18VAC125-20-42, 18VAC125-20-54, 18VAC125-20-55, 18VAC125-20-56, 18VAC125-20-65, 18VAC125-20-80, 18VAC125-20-120, 18VAC125-20-121, 18VAC125-20-122, 18VAC125-20-130, 18VAC125-20-150, 18VAC125-20-160; adding 18VAC125-20-35).

Statutory Authority: §§ 54.1-2400 and 54.1-3605 of the Code of Virginia.

Effective Date: June 23, 2021.

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Summary:

The amendments (i) improve consistency and clarity, reduce requirements for licensure by endorsement, increase the opportunities for continuing education credits, specify a timeframe within which an applicant must pass the national examination, and simplify the requirement for individual supervision in a residency; (ii) require all psychology doctoral programs to be accredited by the American Psychological Association, the Canadian Psychological Association, or another accrediting body acceptable to the board within seven years of the effective date of the regulation; and (iii) adjust standards of conduct to emphasize rules for professionalism, confidentiality, client records, and prohibitions on dual relationships. Changes to proposed regulation remove a requirement that alternatives

to suggested treatment be presented while providing informed consent.

Summary of Public Comments and Agency's Response: A summary of comments made by the public and the agency's response may be obtained from the promulgating agency or viewed at the office of the Registrar of Regulations.

18VAC125-20-10. Definitions.

The following words and terms, in addition to the words and terms defined in § 54.1-3600 of the Code of Virginia, when used in this chapter shall have the following meanings, unless the context clearly indicates otherwise:

"APA" means the American Psychological Association.

"APPIC" means the Association of Psychology Postdoctoral and Internship Centers.

"Board" means the Virginia Board of Psychology.

~~"Candidate for licensure" means a person who has satisfactorily completed the appropriate educational and experience requirements for licensure and has been deemed eligible by the board to sit for the required examinations.~~

"CAEP" means Council for the Accreditation of Educator Preparation.

"CPA" means Canadian Psychological Association.

"Demonstrable areas of competence" means those therapeutic and assessment methods and techniques, ~~and for the populations served,~~ and for which one can document adequate graduate training, workshops, or appropriate supervised experience.

"Face-to-face" means in person.

"Intern" means an individual who is enrolled in a professional psychology program internship.

"Internship" means an ongoing, supervised, and organized practical experience obtained in an integrated training program identified as a psychology internship. Other supervised experience or on-the-job training does not constitute an internship.

"NASP" means the National Association of School Psychologists.

~~"NCATE" means the National Council for the Accreditation of Teacher Education.~~

"Practicum" means the pre-internship clinical experience that is part of a graduate educational program.

"Practicum student" means an individual who is enrolled in a professional psychology program and is receiving pre-internship training and seeing clients.

"Professional psychology program" means an integrated program of doctoral study in clinical or counseling psychology

or a master's degree or higher program in school psychology designed to train professional psychologists to deliver services in psychology.

"Regional accrediting agency" means one of the six regional accrediting agencies recognized by the ~~United States~~ U.S. Secretary of Education established to accredit senior institutions of higher education.

"Residency" means a post-internship, post-terminal degree, supervised experience approved by the board.

"Resident" means an individual who has received a doctoral degree in a clinical or counseling psychology program or a master's degree or higher in school psychology and is completing a board-approved residency.

"School psychologist-limited" means a person licensed pursuant to § 54.1-3606 of the Code of Virginia to provide school psychology services solely in public school divisions.

"Supervision" means the ongoing process performed by a supervisor who monitors the performance of the person supervised and provides regular, documented individual consultation, guidance, and instruction with respect to the skills and competencies of the person supervised.

"Supervisor" means an individual who assumes ~~full~~ responsibility for the education and training activities of a person under supervision and for the care of such person's clients and who provides the supervision required by such a person consistent with the training and experience of both the supervisor and the person under supervision and with the type of services being provided.

18VAC125-20-35. Change of name or address.

Licensees or registrants shall notify the board in writing within 60 days of:

1. Any legal name change; or
2. Any change of address of record or of the licensee's or registrant's public address if different from the address of record.

18VAC125-20-41. Requirements for licensure by examination.

A. Every applicant ~~for examination~~ for licensure by ~~the board~~ examination shall:

1. Meet the education requirements prescribed in 18VAC125-20-54, 18VAC125-20-55, or 18VAC125-20-56 and the experience requirement prescribed in 18VAC125-20-65 as applicable for the particular license sought; and
2. Submit the following:
 - a. A completed application on forms provided by the board;

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b. A completed residency agreement or documentation of having fulfilled the experience requirements of 18VAC125-20-65;

c. The application processing fee prescribed by the board;

d. Official transcripts documenting the graduate work completed and the degree awarded; transcripts previously submitted for registration of supervision do not have to be resubmitted unless additional coursework was subsequently obtained. Applicants who are graduates of institutions that are not regionally accredited shall submit documentation from an accrediting agency acceptable to the board that their education meets the requirements set forth in 18VAC125-20-54, 18VAC125-20-55, or 18VAC125-20-56;

e. A current report from the National Practitioner Data Bank; and

f. Verification of any other health or mental health professional license or certificate, or registration ever held in Virginia or another jurisdiction. The applicant shall not have surrendered a license, certificate, or registration while under investigation and shall have no unresolved action against a license, certificate, or registration.

B. In addition to fulfillment of the education and experience requirements, each applicant for licensure by examination must achieve a passing score on all parts of the Examination for Professional Practice of Psychology required at the time the applicant took the examination.

C. Every applicant shall attest to having read and agreed to comply with the current standards of practice and laws governing the practice of psychology in Virginia.

18VAC125-20-42. Prerequisites for licensure by endorsement.

Every applicant for licensure by endorsement shall submit:

1. A completed application;
2. The application processing fee prescribed by the board;
3. An attestation of having read and agreed to comply with the current Standards of Practice and laws governing the practice of psychology in Virginia;
4. Verification of all other health and mental health professional licenses or certificates, or registrations ever held in Virginia or any jurisdiction of the United States or Canada. In order to qualify for endorsement, the applicant shall not have surrendered a license or certificate, or registration while under investigation and shall have no unresolved action against a license or certificate, or registration;
5. A current report from the National Practitioner Data Bank; and
6. Further documentation of one of the following:

a. A current ~~listing in the~~ credential issued by the National Register of Health Service Psychologists;

b. Current diplomate status in good standing with the American Board of Professional Psychology in a category comparable to the one in which licensure is sought;

c. A Certificate of Professional Qualification in Psychology (CPQ) issued by the Association of State and Provincial Psychology Boards;

d. ~~Ten~~ Five years of active licensure in a category comparable to the one in which licensure is sought, ~~with an appropriate degree as required in this chapter documented by an official transcript with at least 24 months of active practice within the last 60 months immediately preceding licensure application~~; or

e. If less than ~~40~~ five years of active licensure or less than 24 months of active practice within the last 60 months, documentation of current psychologist licensure in good standing obtained by standards substantially equivalent to the education, experience, and examination requirements set forth in this chapter for the category in which licensure is sought as verified by a certified copy of the original application submitted directly from the out-of-state licensing agency or a copy of the regulations in effect at the time of initial licensure and the following: (1) ~~Documentation of post licensure active practice for at least 24 of the last 60 months immediately preceding licensure application;~~ (2) Verification of a passing score on all parts of the Examination for Professional Practice of Psychology as established in Virginia for the year of that administration that were required at the time of original licensure; and (3) (2) Official transcripts documenting the graduate work completed and the degree awarded in the category in which licensure is sought.

18VAC125-20-54. Education requirements for clinical psychologists.

A. ~~The Beginning [(insert a date seven years after the effective date of this regulation) June 23, 2028],~~ an applicant shall hold a doctorate in clinical or counseling psychology from a professional psychology program in a regionally accredited university, ~~which that~~ that was accredited at the time the applicant graduated from the program by the APA ~~in clinical or counseling psychology within four years after the applicant graduated from the program, or shall meet the requirements of subsection B of this section,~~ CPA, or an accrediting body acceptable to the board. Graduates of programs that are not within the United States or Canada shall provide documentation from an acceptable credential evaluation service that provides information verifying that the program is substantially equivalent to an APA-accredited program.

B. ~~If the Prior to [(insert a date seven years after the effective date of this regulation) June 23, 2028],~~ an applicant ~~does not~~ shall either hold a doctorate from an ~~APA~~ accredited program, as specified in subsection A of this section, ~~the applicant or~~

shall hold a doctorate from a professional psychology program ~~which that~~ documents that ~~it the program~~ offers education and training ~~which that~~ prepares individuals for the practice of clinical psychology as defined in § 54.1-3600 of the Code of Virginia and ~~which~~ meets the following criteria:

1. The program is within an institution of higher education accredited by an accrediting agency recognized by the ~~United States~~ U.S. Department of Education or publicly recognized by the Association of Universities and Colleges of Canada as a member in good standing. Graduates of programs that are not within the United States or Canada must provide documentation from an acceptable credential evaluation service ~~which that~~ provides information that allows the board to determine if the program meets the requirements set forth in this chapter.
2. The program shall be recognizable as an organized entity within the institution.
3. The program shall be an integrated, organized sequence of study with an identifiable psychology faculty and a psychologist directly responsible for the program, and shall have an identifiable body of students who are matriculated in that program for a degree. The faculty shall be accessible to students and provide them with guidance and supervision. The faculty shall provide appropriate professional role models and engage in actions that promote the student's acquisition of knowledge, skills, and competencies consistent with the program's training goals.
4. The program shall encompass a minimum of three academic years of full-time graduate study or the equivalent thereof.
5. The program shall include a general core curriculum containing a minimum of three or more graduate semester hours or five or more graduate quarter hours in each of the following substantive content areas:
 - a. Biological bases of behavior (e.g., physiological psychology, comparative psychology, neuropsychology, sensation and perception, health psychology, pharmacology, neuroanatomy).
 - b. Cognitive-affective bases of behavior (e.g., learning theory, cognition, motivation, emotion).
 - c. Social bases of behavior (e.g., social psychology, group processes, organizational and systems theory, community and preventive psychology, multicultural issues).
 - d. Psychological measurement.
 - e. Research methodology.
 - f. Techniques of data analysis.
 - g. Professional standards and ethics.
6. The program shall include a minimum of at least three or more graduate semester credit hours or five or more graduate quarter hours in each of the following clinical psychology content areas:

- a. Individual differences in behavior (e.g., personality theory, cultural difference and diversity).
- b. Human development (e.g., child, adolescent, geriatric psychology).
- c. Dysfunctional behavior, abnormal behavior, or psychopathology.
- d. Theories and methods of intellectual assessment and diagnosis.
- e. Theories and methods of personality assessment and diagnosis including its practical application.
- f. Effective interventions and evaluating the efficacy of interventions.

C. Applicants shall submit documentation of having successfully completed practicum experiences ~~in involving~~ assessment and diagnosis, ~~psychotherapy, consultation and supervision~~ psychological interventions. The practicum experiences shall include a minimum of nine graduate semester hours or 15 or more graduate quarter hours or equivalent in appropriate settings to ensure a wide range of supervised training and educational experiences.

D. An applicant shall graduate from an educational program in clinical psychology that includes an appropriate emphasis on and experience in the diagnosis and treatment of persons with moderate to severe mental disorders.

E. Candidates for clinical psychologist licensure shall have successfully completed an internship in a program that is either accredited by APA or CPA, or is a member of APPIC, or the Association of State and Provincial Psychology Boards/National Register of Health Service Psychologists, or one that meets equivalent standards. If the internship was obtained in an educational program outside of the United States or Canada, a credentialing service approved by the board shall verify equivalency to an internship in an APA-accredited program.

~~D. F.~~ F. An applicant for a clinical license may fulfill the residency requirement of 1,500 hours, or some part thereof, as required for licensure in 18VAC125-20-65 B, in the pre-doctoral doctoral practicum supervised experience, which occurs prior to the internship, and that meets the following standards:

1. The supervised professional experience shall be part of an organized sequence of training within the applicant's doctoral program, ~~which that~~ meets the criteria specified in ~~subsection A or B~~ of this section.
2. The supervised experience shall include face-to-face direct client services, service-related activities, and supporting activities.
 - a. "Face-to-face direct client services" means ~~treatment/intervention~~ treatment or intervention, assessment, and interviewing of clients.

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b. "Service-related activities" means scoring, reporting or treatment note writing, and consultation related to face-to-face direct services.

c. "Supporting activities" means time spent under supervision of face-to-face direct services and service-related activities provided ~~on-site~~ onsite or in the trainee's academic department, as well as didactic experiences, such as laboratories or seminars, directly related to such services or activities.

3. In order for pre-doctoral practicum hours to fulfill all or part of the residency requirement, the following shall apply:

a. Not less than one-quarter of the hours shall be spent in providing face-to-face direct client services;

b. Not less than one-half of the hours shall be in a combination of face-to-face direct service hours and hours spent in service-related activities; and

c. The remainder of the hours may be spent in a combination of face-to-face direct services, service-related activities, and supporting activities.

4. A minimum of one hour of individual face-to-face supervision shall be provided for every eight hours of supervised professional experience spent in direct client contact and service-related activities.

5. Two hours of group supervision with up to five practicum students may be substituted for one hour of individual supervision. In no case shall the hours of individual supervision be less than one-half of the total hours of supervision.

6. The hours of pre-doctoral supervised experience reported by an applicant shall be certified by the program's director of clinical training on a form provided by the board.

7. If the supervised experience hours completed in a series of practicum experiences do not total 1,500 hours or if a candidate is deficient in any of the categories of hours, a candidate shall fulfill the remainder of the hours by meeting requirements specified in 18VAC125-20-65.

18VAC125-20-55. Education requirements for applied psychologists.

A. The applicant shall hold a doctorate from a professional psychology program from a regionally accredited university ~~which~~ that meets the following criteria:

1. The program is within an institution of higher education accredited by an accrediting agency recognized by the ~~United States~~ U.S. Department of Education, or publicly recognized by the Association of Universities and Colleges of Canada as a member in good standing. Graduates of programs that are not within the United States or Canada must provide documentation from a credential evaluation service acceptable to the board ~~which~~ that demonstrates that the program meets the requirements set forth in this chapter.

2. The program shall be recognizable as an organized entity within the institution.

3. The program shall be an integrated, organized sequence of study with an identifiable psychology faculty and a psychologist directly responsible for the program; and shall have an identifiable body of students who are matriculated in that program for a degree. The faculty shall be accessible to students and provide them with guidance and supervision. The faculty shall provide appropriate professional role models and engage in actions that promote the student's acquisition of knowledge, skills, and competencies consistent with the program's training goals.

4. The program shall encompass a minimum of three academic years of full-time graduate study or the equivalent thereof.

5. The program shall include a general core curriculum containing a minimum of three or more graduate semester hours or five or more graduate quarter hours in each of the following substantive content areas:

a. Biological bases of behavior (e.g., physiological psychology, comparative psychology, neuropsychology, sensation and perception, health psychology, pharmacology, neuroanatomy).

b. Cognitive-affective bases of behavior (e.g., learning theory, cognition, motivation, emotion).

c. Social bases of behavior (e.g., social psychology, group processes, organizational and systems theory, community and preventive psychology, multicultural issues).

d. Psychological measurement.

e. Research methodology.

f. Techniques of data analysis.

g. Professional standards and ethics.

B. Demonstration of competence in applied psychology shall be met by including a minimum of at least 18 semester hours or 30 quarter hours in a concentrated program of study in an identified area of psychology, ~~e.g.~~ for example, developmental, social, cognitive, motivation, applied behavioral analysis, industrial/organizational, human factors, personnel selection and evaluation, program planning and evaluation, teaching, research or consultation.

18VAC125-20-56. Education requirements for school psychologists.

A. The applicant shall hold at least a master's degree in school psychology, with a minimum of at least 60 semester credit hours or 90 quarter hours, from a college or university accredited by a regional accrediting agency, which was accredited by the APA, ~~NCATE~~ or CAEP or was approved by NASP, or shall meet the requirements of subsection B of this section.

B. If the applicant does not hold a master's degree in school psychology from a program accredited by the APA, ~~NCATE~~ or CAEP or approved by NASP, the applicant shall have a master's degree from a psychology program ~~which that~~ offers education and training to prepare individuals for the practice of school psychology as defined in § 54.1-3600 of the Code of Virginia and ~~which that~~ meets the following criteria:

1. The program is within an institution of higher education accredited by an accrediting agency recognized by the ~~United States~~ U.S. Department of Education, or publicly recognized by the Association of Universities and Colleges of Canada as a member in good standing. Graduates of programs that are not within the United States or Canada must provide documentation from a credential evaluation service acceptable to the board ~~which that~~ demonstrates that the program meets the requirements set forth in this chapter.

2. The program shall be recognizable as an organized entity within the institution.

3. The program shall be an integrated, organized sequence of study with an identifiable psychology faculty and a psychologist directly responsible for the program, and shall have an identifiable body of students who are matriculated in that program for a degree. The faculty shall be accessible to students and provide them with guidance and supervision. The faculty shall provide appropriate professional role models and engage in actions that promote the student's acquisition of knowledge, skills, and competencies consistent with the program's training goals.

4. The program shall encompass a minimum of two academic years of full-time graduate study or the equivalent thereof.

5. The program shall include a general core curriculum containing a minimum of three or more graduate semester hours or five or more graduate quarter hours in each of the following substantive content areas:

- a. Psychological foundations (e.g., biological bases of behavior, human learning, social and cultural bases of behavior, child and adolescent development, individual differences).
- b. Educational foundations (e.g., instructional design, organization and operation of schools).
- c. Interventions/problem-solving (e.g., assessment, direct interventions, both individual and group, indirect interventions).
- d. Statistics and research methodologies (e.g., research and evaluation methods, statistics, measurement).
- e. Professional school psychology (e.g., history and foundations of school psychology, legal and ethical issues, professional issues and standards, alternative models for the delivery of school psychological services, emergent technologies, roles and functions of the school psychologist).

6. The program shall be committed to practicum experiences ~~which that~~ shall include:

- a. Orientation to the educational process;
- b. Assessment for intervention;
- c. Direct intervention, including counseling and behavior management; and
- d. Indirect intervention, including consultation.

C. Candidates for school psychologist licensure shall have successfully completed an internship in a program accredited by APA or CAEP, or approved by NASP, or is a member of APPIC or one that meets equivalent standards.

18VAC125-20-65. Supervised experience Residency.

~~A. Internship requirement.~~

~~1. Candidates for clinical psychologist licensure shall have successfully completed an internship that is either accredited by APA, APPIC, or the Association of State and Provincial Psychology Boards/National Register of Health Service Psychologists, or one that meets equivalent standards.~~

~~2. Candidates for school psychologist licensure shall have successfully completed an internship accredited by the APA, APPIC, or NASP.~~

A. Candidates for clinical or school psychologist licensure shall have successfully completed a residency consisting of a minimum of 1,500 hours of supervised experience in the delivery of clinical or school psychology services acceptable to the board.

1. For clinical psychology candidates, the hours of supervised practicum experiences in a doctoral program may be counted toward the residency hours, as specified in 18VAC125-20-54. Hours acquired during the required internship shall not be counted toward the 1,500 residency hours. If the supervised experience hours completed in a practicum do not total 1,500 hours or if a candidate is deficient in any of the categories of hours, a candidate may fulfill the remainder of the hours by meeting requirements specified in subsection B of this section.

2. School psychologist candidates shall complete all the residency requirements after receipt of their final school psychology degree.

~~B. Residency requirement requirements.~~

1. Candidates for clinical or school psychologist licensure shall have successfully completed a residency consisting of a minimum of 1,500 hours in a period of not less than 12 months and not to exceed three years of supervised experience in the delivery of clinical or school psychology services acceptable to the board, or the applicant may request approval to ~~begin~~ extend a residency if there were extenuating circumstances that precluded completion within three years.

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2. Supervised experience obtained in Virginia without prior written board approval will not be accepted toward licensure. Candidates shall not begin the residency until after completion of the required degree as set forth in 18VAC125-20-54 or 18VAC125-20-56.

~~An~~ 3. In order to have the residency accepted for licensure, an individual who proposes to obtain supervised post-degree experience in Virginia shall; register with the board prior to the onset of such supervision; submit by submission of:

a. A supervisory contract along with the application package; and pay

the b. The registration of supervision fee set forth in 18VAC125-20-30; and

c. An official transcript documenting completion of educational requirements as set forth in 18VAC125-20-54 or 18VAC125-20-56 as applicable.

4. If board approval was required for supervised experience obtained in another United States jurisdiction or Canada in which residency hours were obtained, a candidate shall provide evidence of board approval from such jurisdiction.

~~3.~~ 5. There shall be a minimum of two hours of individual supervision per week 40 hours of supervised experience. Group supervision of up to five residents may be substituted for one of the two hours per week on the basis that two hours of group supervision equals one hour of individual supervision, but in no case shall the resident receive less than one hour of individual supervision per week 40 hours.

~~4. Residents may not refer to or identify themselves as applied psychologists, clinical psychologists, or school psychologists; independently solicit clients; bill for services; or in any way represent themselves as licensed psychologists. Notwithstanding the above, this does not preclude supervisors or employing institutions for billing for the services of an appropriately identified resident. During the residency period they shall use their names, the initials of their degree, and the title, "Resident in Psychology," in the licensure category in which licensure is sought.~~

~~5.~~ 6. Supervision shall be provided by a psychologist who holds a current, unrestricted license in the jurisdiction in which supervision is being provided and who is licensed to practice in the licensure category in which the resident is seeking licensure.

~~6.~~ 7. The supervisor shall not provide supervision for activities beyond the supervisor's demonstrable areas of competence; nor for activities for which the applicant has not had appropriate education and training.

~~7.~~ 8. The supervising psychologist shall maintain records of supervision performed and shall regularly review and co-sign case notes written by the supervised resident during the residency period. At the end of the residency training period,

~~the supervisor or supervisors shall submit to the board a written evaluation of the applicant's performance.~~

~~8.~~ 9. The board may consider special requests in the event that the regulations create an undue burden in regard to geography or disability that limits the resident's access to qualified supervisors.

~~C. For a clinical psychologist license, a candidate may submit evidence of having met the supervised experience requirements in a pre-doctoral doctoral practicum as specified in 18VAC125-20-54 D in substitution for all or part of the 1,500 residency hours specified in this section. If the supervised experience hours completed in a practicum do not total 1,500 hours, a person may fulfill the remainder of the hours by meeting requirements specified in subsection B of this section.~~

~~D. Candidates for clinical psychologist licensure shall provide documentation that the internship and residency included appropriate emphasis and experience in the diagnosis and treatment of persons with moderate to severe mental disorders.~~

~~C. Residents shall not refer to or identify themselves as clinical psychologists or school psychologists, independently solicit clients, bill directly for services, or in any way represent themselves as licensed psychologists. Notwithstanding, this does not preclude supervisors or employing institutions from billing for the services of an appropriately identified resident. During the residency period, residents shall use their names, the initials of their degree, and the title "Resident in Psychology" in the licensure category in which licensure is sought.~~

18VAC125-20-80. General examination requirements.

~~A. An applicant for clinical or school psychologist licensure enrolled in an approved residency training program required in 18VAC125-20-65 who has met all requirements for licensure except completion of that program shall be eligible to take the national written examination. B. A candidate approved by the board to sit for an examination shall take that achieve a passing score on the final step of the national examination within two years of the date of the initial board approval immediately preceding licensure. A candidate may request an extension of the two-year limitation for extenuating circumstances. If the candidate has not taken the examination by the end of the two-year period here prescribed, the applicant shall reapply according to the requirements of the regulations in effect at that time.~~

~~C.~~ B. The board shall establish passing scores on all steps of the examination.

18VAC125-20-120. Annual renewal of licensure.

Every license issued by the board shall expire each year on June 30.

1. Every licensee who intends to continue to practice shall, on or before the expiration date of the license, submit to the board a license renewal form supplied by the board and the renewal fee prescribed in 18VAC125-20-30.

2. Licensees who wish to maintain an active license shall pay the appropriate fee and verify on the renewal form compliance with the continuing education requirements prescribed in 18VAC125-20-121. First-time licensees by examination are not required to verify continuing education on the first renewal date following initial licensure.

3. A licensee who wishes to place his license in inactive status may do so upon payment of the fee prescribed in 18VAC125-20-30. ~~No A person with an inactive license is not authorized to practice; no person shall practice psychology in Virginia unless he holds~~ without a current active license. An inactive licensee may activate ~~his~~ a license by fulfilling the reactivation requirements set forth in 18VAC125-20-130.

4. ~~Licensees shall notify the board office in writing of any change of address of record or of the public address, if different from the address of record.~~ Failure of a licensee to receive a renewal notice and application forms from the board shall not excuse the licensee from the renewal requirement.

18VAC125-20-121. Continuing education course requirements for renewal of an active license.

A. Licensees shall be required to ~~have completed~~ complete a minimum of 14 hours of board-approved continuing education courses each year for annual licensure renewal. A minimum of 1.5 of these hours shall be in courses that emphasize the ethics, laws, and regulations governing the profession of psychology, including the standards of practice set out in 18VAC125-20-150. A licensee who completes continuing education hours in excess of the 14 hours may carry up to seven hours of continuing education credit forward to meet the requirements for the next annual renewal cycle.

B. For the purpose of this section, "course" means an organized program of study, classroom experience, or similar educational experience that is directly related to the practice of psychology and is provided by a board-approved provider that meets the criteria specified in 18VAC125-20-122.

1. At least six of the required hours shall be earned in face-to-face or real-time interactive educational experiences. Real-time interactive shall include a course in which the learner has the opportunity to interact with the presenter ~~and participants~~ during the time of the presentation.

2. The board may approve up to four hours per renewal cycle for each of the following specific educational experiences ~~to include:~~

- a. Preparation for and presentation of a continuing education program, seminar, workshop, or academic

course offered by an approved provider and directly related to the practice of psychology. Hours may only be credited one time, regardless of the number of times the presentation is given, and may not be credited toward the face-to-face requirement.

b. Publication of an article or book in a recognized publication directly related to the practice of psychology. Hours may only be credited one time, regardless of the number of times the writing is published, and may not be credited toward the face-to-face requirement.

c. Serving at least six months as editor or associate editor of a national or international, professional, peer-reviewed journal directly related to the practice of psychology.

3. Ten hours will be accepted for one or more three-credit-hour academic courses completed at a regionally accredited institution of higher education that are directly related to the practice of psychology.

4. The board may approve up to two hours per renewal cycle for membership on a state licensing board in psychology.

C. Courses must be directly related to the scope of practice in the category of licensure held. Continuing education courses for clinical psychologists shall emphasize, but not be limited to, the diagnosis, treatment, and care of patients with moderate and severe mental disorders.

D. The board may grant an extension for good cause of up to one year for the completion of continuing education requirements upon written request from the licensee prior to the renewal date. Such extension shall not relieve the licensee of the continuing education requirement.

E. The board may grant an exemption for all or part of the continuing education requirements for one renewal cycle due to circumstances determined by the board to be beyond the control of the licensee.

F. Up to two of the 14 continuing education hours required for renewal may be satisfied through delivery of psychological services, without compensation, to low-income individuals receiving mental health services through a local health department or a free clinic organized in whole or primarily for the delivery of those health services as verified by the department or clinic. Three hours of volunteer service is required for one hour of continuing education credit.

18VAC125-20-122. Continuing education providers.

A. The following organizations, associations, or institutions are approved by the board to provide continuing education:

- 1. Any psychological association recognized by the profession or providers approved by such an association.
- 2. Any association or organization of mental health, health, or psychoeducational providers recognized by the profession or providers approved by such an association or organization.

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~~3. Any association or organization providing courses related to forensic psychology recognized by the profession or providers approved by such an association or organization.~~

~~4. Any regionally accredited institution of higher learning. A maximum of 14 hours will be accepted for each academic course directly related to the practice of psychology.~~

~~5.~~ 4. Any governmental agency or facility that offers mental health, health, or psychoeducational services.

~~6.~~ 5. Any licensed hospital or facility that offers mental health, health, or psychoeducational services.

~~7.~~ 6. Any association or organization that has been approved as a continuing ~~competency~~ education provider by a psychology board in another state or jurisdiction.

B. Continuing education providers approved under subsection A of this section shall:

1. Maintain documentation of the course titles and objectives and of licensee attendance and completion of courses for a period of four years.

2. Monitor attendance at classroom or similar face-to-face educational experiences.

3. Provide a certificate of completion for licensees who successfully complete a course. The certificate shall indicate the number of continuing education hours for the course and shall indicate hours that may be designated as ethics, laws, or regulations governing the profession, if any.

18VAC125-20-130. Late renewal; reinstatement; reactivation.

A. A person whose license has expired may renew it within one year after its expiration date by paying the ~~penalty~~ late fee prescribed in 18VAC125-20-30 and the license renewal fee for the year the license was not renewed and by completing the continuing education requirements specified in 18VAC125-20-121 for that year.

B. A person whose license has not been renewed for one year or more and who wishes to resume practice shall:

1. Present evidence to the board of having met all applicable continuing education requirements equal to the number of years the license has ~~lapsed~~ been expired, not to exceed four years;

2. Pay the reinstatement fee as prescribed in 18VAC125-20-30; and

3. Submit verification of any professional certification or licensure obtained in any other jurisdiction subsequent to the initial application for licensure.

C. A psychologist wishing to reactivate an inactive license shall submit the renewal fee for active licensure minus any fee already paid for inactive licensure renewal; and document completion of continued ~~competency~~ education hours equal to

the number of years the license has been inactive, not to exceed four years.

18VAC125-20-150. Standards of practice.

A. The protection of the public health, safety, and welfare and the best interest of the public shall be the primary guide in determining the appropriate professional conduct of all persons whose activities are regulated by the board. Psychologists respect the rights, dignity, and worth of all people; and are mindful of individual differences. Regardless of the delivery method, whether face-to-face or by use of technology, these standards shall apply to the practice of psychology.

B. Persons ~~licensed~~ regulated by the board shall:

1. Provide and supervise only those services and use only those techniques for which they are qualified by education, training, and appropriate experience;

~~2. Delegate to their employees, supervisees, residents and research assistants persons under their supervision only those responsibilities such persons can be expected to perform competently by education, training, and experience. Take ongoing steps to maintain competence in the skills they use;~~

~~2.~~ When making public statements regarding 3. Maintain current competency in the areas of practices through continuing education, consultation, or other procedures consistent with current standards of scientific and professional knowledge;

4. Accurately represent their areas of competence, education, training, experience, professional affiliations, credentials, and published findings, directory listings, curriculum vitae, etc., to ensure that such statements are neither fraudulent nor misleading;

~~3.~~ 5. Neither accept nor give commissions, rebates, or other forms of remuneration for referral of clients for professional services. Make appropriate consultations and referrals consistent with the law and based on the interest of patients or clients;

4. 6. Refrain from undertaking any activity in which their personal problems are likely to lead to inadequate or harmful services;

~~5.~~ 7. Avoid harming, exploiting, misusing influence, or misleading patients or clients, research participants, students, and others for whom they provide professional services and minimize harm when it is foreseeable and unavoidable. Not exploit or mislead people for whom they provide professional services. Be alert to and guard against misuse of influence;

6. Avoid dual relationships with patients, clients, residents or supervisees that could impair professional judgment or compromise their well being (to include but not limited to treatment of close friends, relatives, employees);

~~8. Not engage in, direct, or facilitate torture, which is defined as any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person, or in any other cruel, inhuman, or degrading behavior that causes harm;~~

~~7. 9. Withdraw from, avoid, adjust, or clarify conflicting roles with due regard for the best interest of the affected party or parties and maximal compliance with these standards;~~

~~8. Not engage in sexual intimacies or a romantic relationship with a student, supervisee, resident, therapy patient, client, or those included in collateral therapeutic services (such as a parent, spouse, or significant other) while providing professional services. For at least five years after cessation or termination of professional services, not engage in sexual intimacies or a romantic relationship with a therapy patient, client, or those included in collateral therapeutic services. Consent to, initiation of, or participation in sexual behavior or romantic involvement with a psychologist does not change the exploitative nature of the conduct nor lift the prohibition. Since sexual or romantic relationships are potentially exploitative, psychologists shall bear the burden of demonstrating that there has been no exploitation;~~

~~9. Keep confidential their professional relationships with patients or clients and disclose client records to others only with written consent except: (i) when a patient or client is a danger to self or others, (ii) as required under § 32.1-127.1:03 of the Code of Virginia, or (iii) as permitted by law for a valid purpose;~~

~~10. Make reasonable efforts to arrangements for another professional to deal with emergency needs of clients during periods of foreseeable absences from professional availability and provide for continuity of care when services must be interrupted or terminated;~~

~~11. Inform~~ Conduct financial responsibilities to clients in an ethical and honest manner by:

~~a. Informing clients of fees for professional services, fees, and billing arrangements and limits of confidentiality before rendering services, as soon as is feasible;~~

~~Inform the consumer~~ b. Informing clients prior to the use of collection agencies or legal measures to collect fees and provide opportunity for prompt payment;

c. Obtaining written consent for fees that deviate from the practitioner's usual and customary fees for services;

~~Avoid bartering goods and services.~~

~~Participate~~ d. Participating in bartering only if it is not clinically contraindicated and is not exploitative; and

e. Not obtaining, attempting to obtain, or cooperating with others in obtaining payment for services by misrepresenting services provided, dates of service, or status of treatment.

12. Be able to justify all services rendered to clients as necessary for diagnostic or therapeutic purposes;

12. 13. Construct, maintain, administer, interpret, and report testing and diagnostic services in a manner and for purposes which that are current and appropriate;

13. ~~Keep pertinent, confidential records for at least five years after termination of services to any consumer;~~

14. Design, conduct, and report research in accordance with recognized standards of scientific competence and research ethics. Practitioners shall adhere to requirements of § 32.1-162.18 of the Code of Virginia for obtaining informed consent from patients prior to involving them as participants in human research, with the exception of retrospective chart reviews; and

15. Report to the board known or suspected violations of the laws and regulations governing the practice of psychology;

16. Accurately inform a client or a client's legally authorized representative of the client's diagnoses, prognosis, and intended treatment or plan of care. A psychologist shall present information about the risks and benefits of [~~and alternatives to~~] the recommended treatments in understandable terms and encourage participation in the decisions regarding the patient's care [. When obtaining informed consent treatment for which generally recognized techniques and procedures have not been established, a psychologist shall inform clients of the developing nature of the treatment, the potential risks involved, alternative treatments that may be available, and the voluntary nature of their participation];

17. Clearly document at the outset of service delivery what party the psychologist considers to be the client and what, if any, responsibilities the psychologist has to all related parties;

18. Determine whether a client is receiving services from another mental health service provider, and if so, document efforts to coordinate care; and

19. Document the reasons for and steps taken if it becomes necessary to terminate a therapeutic relationship (e.g., when it becomes clear that the client is not benefiting from the relationship or when the psychologist feels endangered). Document assistance provided in making arrangements for the continuation of treatment for clients, if necessary, following termination of a therapeutic relationship.

C. In regard to confidentiality, persons regulated by the board shall:

1. Keep confidential their professional relationships with patients or clients and disclose client information to others only with written consent except as required or permitted by law. Psychologists shall inform clients of legal limits to confidentiality;

Regulations

2. Protect the confidentiality in the usage of client information and clinical materials by obtaining informed consent from the client or the client's legally authorized representative before (i) videotaping, (ii) audio recording, (iii) permitting third party observation, or (iv) using clinical information in teaching, writing, or public presentations; and

3. Not willfully or negligently breach the confidentiality between a practitioner and a client. A disclosure that is required or permitted by applicable law or beyond the control of the practitioner shall not be considered negligent or willful.

D. In regard to client records, persons regulated by the board shall:

1. Maintain timely, accurate, legible, and complete written or electronic records for each client [~~that includes~~. For a psychologist practicing in an institutional setting, the recordkeeping shall follow the policies of the institution or public facility. For a psychologist practicing in a noninstitutional setting, the record shall include]:

- a. The name of the client and other identifying information;
- b. The presenting problem, purpose, or diagnosis;
- c. Documentation of the fee arrangement;
- d. The date and clinical summary of each service provided;
- e. Any test results, including raw data, or other evaluative results obtained;
- f. Notation and results of formal consults with other providers; and
- g. Any releases by the client;

2. Maintain client records securely, inform all employees of the requirements of confidentiality and dispose of written, electronic, and other records in such a manner as to ensure their confidentiality; and

3. Maintain client records for a minimum of five years or as otherwise required by law from the last date of service, with the following exceptions:

- a. At minimum, records of a minor child shall be maintained for five years after attaining 18 years of age;
- b. Records that are required by contractual obligation or federal law to be maintained for a longer period of time; or
- c. Records that have been transferred pursuant to § 54.1-2405 of the Code of Virginia pertaining to closure, sale, or change of location of one's practice.

E. In regard to dual relationships, persons regulated by the board shall:

1. Not engage in a dual relationship with a person under supervision that could impair professional judgment or increase the risk of exploitation or harm. Psychologists shall

take appropriate professional precautions when a dual relationship cannot be avoided, such as informed consent, consultation, supervision, and documentation to ensure that judgment is not impaired and no exploitation occurs;

2. Not engage in sexual intimacies or a romantic relationship with a student, supervisee, resident, intern, therapy patient, client, or those included in collateral therapeutic services (such as a parent, spouse, or significant other of the client) while providing professional services. For at least five years after cessation or termination of professional services, not engage in sexual intimacies or a romantic relationship with a therapy patient, client, or those included in collateral therapeutic services. Consent to, initiation of, or participation in sexual behavior or romantic involvement with a psychologist does not change the exploitative nature of the conduct nor lift the prohibition. Because sexual or romantic relationships are potentially exploitative, psychologists shall bear the burden of demonstrating that there has been no exploitation, based on factors such as duration of therapy, amount of time since therapy, termination circumstances, client's personal history and mental status, and adverse impact on the client;

3. Not engage in a personal relationship with a former client in which there is a risk of exploitation or potential harm or if the former client continues to relate to the psychologist in his professional capacity; and

4. Recognize conflicts of interest and inform all parties of the nature and directions of loyalties and responsibilities involved.

F. Upon learning of evidence that indicates a reasonable probability that another mental health provider is or may be guilty of a violation of standards of conduct as defined in statute or regulation, persons licensed by the board shall advise their clients of their right to report such misconduct to the Department of Health Professions in accordance with § 54.1-2400.4 of the Code of Virginia.

18VAC125-20-160. Grounds for disciplinary action or denial of licensure.

The board may take disciplinary action or deny a license or registration for any of the following causes:

- 1. Conviction of a felony, or a misdemeanor involving moral turpitude (i.e., relating to lying, cheating, or stealing);
- 2. Procuring ~~of~~ or attempting to procure or maintaining a license or registration by fraud or misrepresentation;
- 3. ~~Misuse of drugs or alcohol to the extent that it interferes with professional functioning~~ Conducting practice in such a manner so as to make it a danger to the health and welfare of clients or to the public;
- 4. ~~Negligence in professional conduct or violation of practice standards including but not limited to this chapter~~ Engaging in intentional or negligent conduct that causes or is likely to cause injury to a client;

- 5. Performing functions outside areas of competency;
- 6. ~~Mental, emotional, or physical incompetence to practice the profession~~ Demonstrating an inability to practice psychology with reasonable skill and safety to clients by reason of illness or substance misuse, or as a result of any mental, emotional, or physical condition;
- 7. ~~Failure~~ Failing to comply with the ~~continued competency~~ continuing education requirements set forth in this chapter; ~~or~~
- 8. Violating or aiding and abetting another to violate any statute applicable to the practice of the profession ~~regulated or any provision of this chapter~~, including § 32.1-127.1:03 of the Code of Virginia relating to health records;
- 9. Knowingly allowing persons under supervision to jeopardize client safety or provide care to clients outside of such person's scope of practice or area of responsibility;
- 10. Performing an act or making statements that are likely to deceive, defraud, or harm the public;
- 11. Having [~~an~~ a disciplinary] action taken against a health or mental health license, certification, registration, or application in Virginia or other jurisdiction [or surrendering such a license, certification, or registration in lieu of disciplinary action];
- 12. Failing to cooperate with an employee of the Department of Health Professions in the conduct of an investigation;
- 13. Failing to report evidence of child abuse or neglect as required in § 63.2-1509 of the Code of Virginia, or abuse of aged and incapacitated adults as required in § 63.2-1606 of the Code of Virginia; or
- 14. Violating any provisions of this chapter, including practice standards set forth in 18VAC125-20-150.

VA.R. Doc. No. R18-5213; Filed April 21, 2021, 2:49 p.m.



TITLE 19. PUBLIC SAFETY

DEPARTMENT OF STATE POLICE

Final Regulation

REGISTRAR'S NOTICE: The following regulatory action is exempt from Article 2 of the Administrative Process Act in accordance with § 2.2-4006 A 4 c of the Code of Virginia, which excludes regulations that are necessary to meet the requirements of federal law or regulations, provided such regulations do not differ materially from those required by federal law or regulation. The Department of State Police will receive, consider, and respond to petitions by any interested person at any time with respect to reconsideration or revision.

Title of Regulation: **19VAC30-20. Motor Carrier Safety Regulations (amending 19VAC30-20-80).**

Statutory Authority: § 52-8.4 of the Code of Virginia; 49 CFR Part 390.

Effective Date: June 30, 2021.

Agency Contact: Lieutenant Shawn Gobble, Assistant Safety Officer, Motor Carrier, Department of State Police, 3719 Saunders Avenue, Richmond, VA 23227, telephone (804) 278-5331, or email shawn.gobble@vsp.virginia.gov.

Summary:

The amendment updates the effective date of the Federal Motor Carrier Safety Regulations promulgated by the U.S. Department of Transportation, Federal Motor Carrier Safety Administration that are incorporated for compliance and enforcement purposes.

19VAC30-20-80. Compliance.

Every person and commercial motor vehicle subject to this chapter operating in interstate or intrastate commerce within or through the Commonwealth of Virginia shall comply with the Federal Motor Carrier Safety Regulations promulgated by the U.S. Department of Transportation, Federal Motor Carrier Safety Administration, with amendments promulgated and in effect as of ~~September 29, 2020~~ June 30, 2021, pursuant to the United States Motor Carrier Safety Act found in 49 CFR Parts 366, 370 through 376, 379, 380 Subparts E and F, 382, 385, 386 Subpart G, 387, 390 through 397, and 399, which are incorporated in this chapter by reference, with certain exceptions.

VA.R. Doc. No. R21-6766; Filed April 21, 2021, 4:03 p.m.

GUIDANCE DOCUMENTS

PUBLIC COMMENT OPPORTUNITY

Pursuant to § 2.2-4002.1 of the Code of Virginia, a certified guidance document is subject to a 30-day public comment period after publication in the Virginia Register of Regulations and prior to the guidance document's effective date. During the public comment period, comments may be made through the Virginia Regulatory Town Hall website (<http://www.townhall.virginia.gov>) or sent to the agency contact. Under subsection C of § 2.2-4002.1, the effective date of the guidance document may be delayed for an additional period. The guidance document may also be withdrawn.

The following guidance documents have been submitted for publication by the listed agencies for a public comment period. Online users of this issue of the Virginia Register of Regulations may click on the name of a guidance document to access it. Guidance documents are also available on the Virginia Regulatory Town Hall (<http://www.townhall.virginia.gov>) or from the agency contact or may be viewed at the Office of the Registrar of Regulations, 900 East Main Street, Richmond, Virginia 23219.

STATE BOARD OF EDUCATION

Title of Document: [Draft Guidance for Successful Virtual Learning.](#)

Public Comment Deadline: June 23, 2021.

Effective Date: June 24, 2021.

Agency Contact: Leslie Sale, Director of Policy, Department of Education, 101 North 14th Street, 25th Floor, Richmond, VA 23219, telephone (804) 225-2092, or email leslie.sale@doe.virginia.gov.

* * *

Title of Document: [Guidelines for a Water Management Program to Prevent Legionella Pneumophila Growth in Public School Buildings.](#)

Public Comment Deadline: June 23, 2021.

Effective Date: June 24, 2021.

Agency Contact: A.K. (Vijay) Ramnarain, Director of Support Services, Department of Education, 101 North 14th Street, Richmond, VA 23219, telephone (804) 225-2037, or email vijay.ramnarain@doe.virginia.gov.

* * *

Title of Document: [Virginia Preschool Initiative Virtual Instruction Guidance for 2021-2022.](#)

Public Comment Deadline: June 23, 2021.

Effective Date: June 24, 2021.

Agency Contact: Erin Carroll, Director of Early Childhood, Department of Education, 101 North 14th Street, Richmond, VA 23219, telephone (804) 225-2263, or email erin.carroll@doe.virginia.gov.

BOARD OF JUVENILE JUSTICE

Title of Document: [Guidance Document Interpreting 6VAC35-170, Review and Approval of Data Requests and Research Proposals.](#)

Public Comment Deadline: June 23, 2021.

Effective Date: June 24, 2021.

Agency Contact: Kristen Peterson, Regulatory Coordinator, Department of Juvenile Justice, 600 East Main Street, 20th Floor, Richmond, VA 23219, telephone (804) 971-2776, or email kristen.peterson@djj.virginia.gov.

DEPARTMENT OF MEDICAL ASSISTANCE SERVICES

Titles of Documents: [Draft Memo- Durable Medical Equipment and Supplies Rate Floor.](#)

[Practice Guidelines for Behavior Support Plans.](#)

Public Comment Deadline: June 23, 2021.

Effective Date: June 24, 2021.

Agency Contact: Emily McClellan, Policy and Research, Department of Medical Assistance Services, 600 East Broad Street, Suite 1300, Richmond, VA 23219, telephone (804) 371-6043, or email emily.mcclellan@dmass.virginia.gov.

BOARD OF VETERINARY MEDICINE

Title of Document: [Inspection Report for Veterinary Establishments.](#)

Public Comment Deadline: June 23, 2021.

Effective Date: June 24, 2021.

Agency Contact: Elaine J. Yeatts, Agency Regulatory Coordinator, Department of Health Professions, Perimeter Center, 9960 Mayland Drive, Suite 300, Richmond, VA 23233, telephone (804) 367-4688, or email elaine.yeatts@dhp.virginia.gov.

STATE WATER CONTROL BOARD

Titles of Documents: [Implementation Guidance for Reissuance of the VPDES General Permit Regulation for Discharges Resulting from the Application of Pesticides to Surface Water \(VAG87\)](#).

[Implementation Guidance for Reissuance of the General VPDES Permit for Nonmetallic Mineral Mining Facilities \(VAG84\)](#).

Public Comment Deadline: June 23, 2021.

Effective Date: June 24, 2021.

Agency Contact: Peter Sherman, Department of Environmental Quality, 1111 East Main Street, Suite 1400, P.O. Box 1105, Richmond, VA 23218, telephone (804) 698-4044, or email peter.sherman@deq.virginia.gov.

BOARD FOR WATERWORKS AND WASTEWATER WORKS OPERATORS AND ONSITE SEWAGE SYSTEM PROFESSIONALS

Title of Document: [Guidance Regarding WWWOSSP Licensees Earning CPE Credit for Attending WWWOSSP Board Meetings](#).

Public Comment Deadline: June 23, 2021.

Effective Date: June 24, 2021.

Agency Contact: Trisha L. Lindsey, Executive Director, Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals, 9960 Mayland Drive, Suite 400, Richmond, VA 23233, telephone (804) 367-8595, or email waterwasteoper@dpor.virginia.gov.

GENERAL NOTICES

DEPARTMENT OF MEDICAL ASSISTANCE SERVICES

Intent to Amend the Virginia State Plan for Medical Assistance Pursuant to § 1902(a)(13) of the Social Security Act (USC § 1396a(a)(13)) - COVID Vaccine Administration Fee

The Virginia Department of Medical Assistance Services (DMAS) hereby affords the public notice of its intention to amend the Virginia State Plan for Medical Assistance to provide for changes to the Methods and Standards for Establishing Payment Rate; Other Types of Care (12VAC30-80).

This notice is intended to satisfy the requirements of 42 CFR 447.205 and § 1902(a)(13) of the Social Security Act, 42 USC § 1396a(a)(13). A copy of this notice is available for public review from Emily McClellan, DMAS, 600 Broad Street, Suite 1300, Richmond, VA 23219, or via email at emily.mcclellan@dmas.virginia.gov.

DMAS is specifically soliciting input from stakeholders, providers, and beneficiaries on the potential impact of the proposed changes discussed in this notice. Comments or inquiries may be submitted, in writing, within 30 days of this notice publication to Emily McClellan and such comments are available for review at the same address. Comments may also be submitted, in writing, on the Virginia Regulatory Town Hall public comment forum at <https://townhall.virginia.gov/L/generalnotice.cfm>.

In accordance with the 2021 Appropriations Act, Item 313.UUUUU, DMAS will be making the following changes:

In Methods and Standards for Establishing Payment Rate; Other Types of Care (12VAC30-80), the state plan is being revised to establish the administration fee for the COVID-19 vaccine at \$40 to match the Medicare rate.

The expected increase in annual aggregate expenditures is \$21,802,880 in federal funds in federal fiscal year 2021.

Contact Information: Emily McClellan, Regulatory Manager, Division of Policy and Research, Department of Medical Assistance Services, 600 East Broad Street, Suite 1300, Richmond, VA 23219, telephone (804) 371-4300, FAX (804) 786-1680.

STATE WATER CONTROL BOARD

Proposed Enforcement Action for the City of Covington

An enforcement action has been proposed for the City of Covington for violations in Covington, Virginia. The State Water Control Board proposes to amend a special order by consent issued to the City of Covington to address noncompliance with the State Water Control Law and regulations. A description of the proposed amendment is

available at the Department of Environmental Quality office listed or online at www.deq.virginia.gov. The staff contact person will accept comments by email or postal mail from May 24, 2021, to June 23, 2021.

Contact Information: R. Nelson Dail, Department of Environmental Quality, Blue Ridge Office, 901 Russell Drive, Salem, VA 24153, or email nelson.dail@deq.virginia.gov.

Proposed Enforcement Action for Craft Machine Works Inc.

An enforcement action has been proposed for Craft Machine Works Inc., Hampton, for violations of State Water Control Law. A description of the proposed action is available at the Department of Environmental Quality office listed or online at www.deq.virginia.gov. The staff contact person will accept comments by email, fax, or postal mail from May 24, 2021, to June 23, 2021.

Contact Information: John Brandt, Department of Environmental Quality, Tidewater Regional Office, 5636 Southern Boulevard, Virginia Beach, VA 23462, FAX (804) 698-4178, or email john.brandt@deq.virginia.gov.

Proposed Enforcement Action for the Dickenson County Public Service Authority

An enforcement action has been proposed for the Dickenson County Public Service Authority for violations of the State Water Control Law at the Haysi Sewage Treatment Plant in Dickenson County. A description of the proposed action is available at the Department of Environmental Quality office listed or online at www.deq.virginia.gov. The staff contact person will accept comments by email or postal mail from May 25, 2021, through June 24, 2021.

Contact Information: Jonathan Chapman, Department of Environmental Quality, Southwest Regional Office, 355-A Deadmore Street, Abingdon, VA 24210, or email jonathan.chapman@deq.virginia.gov.

Proposed Enforcement Action for the Rappahannock Regional Solid Waste Management Board

An enforcement action has been proposed for the Rappahannock Regional Solid Waste Management Board for violations of the State Water Control Law and regulations at the R-Board sanitary landfill located in Stafford County, Virginia. A description of the proposed action is available at the Department of Environmental Quality office listed or online at <https://www.deq.virginia.gov/permits-regulations/public-notices/enforcement-orders>. The staff contact person will accept comments by email or postal mail from May 25, 2021, through June 24, 2021.

Contact Information: Jim Datko, Department of Environmental Quality, Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, or email james.datko@deq.virginia.gov.

Intent to Approve Revised Compensation Planning Framework for Virginia Aquatic Resources Trust Fund

Pursuant to § 62.1-44.15:20-23 of the Code of Virginia and 9VAC25-210-116 D, the State Water Control Board is giving notice of its intent to approve a revised compensation planning framework (CPF) for use by the Virginia Aquatic Resources Trust Fund (VARTF). VARTF is an approved in-lieu fee mitigation program (ILF Program), sponsored and operated by The Nature Conservancy (sponsor). This public notice is specific to the sponsor's request to replace their 2009 CPF with a revised 2021 CPF.

On July 18, 2019, the VARTF 2019 Amended and Restated Program Instrument (instrument) was finalized. In 2019, the board, acting through Department of Environmental Quality, also approved the VARTF ILF Program to operate within the Commonwealth of Virginia for a period of 10 years, pursuant to 9VAC25-210-116 D, outlining ILF Program approval. The instrument, through the CPF, identifies where the sponsor will locate and pursue compensatory mitigation projects. The sponsor's first CPF was developed in 2009 and was incorporated into the VARTF ILF Program Instrument. In March 2021, the sponsor submitted "The Nature Conservancy's Watershed Approach to Compensation Planning for the Virginia Aquatic Resources Trust Fund" (2021 CPF). The 2021 CPF will replace the 2009 CPF. The 2021 CPF incorporates advances in science, new spatial prioritization data, refinements to the sponsor's conservation approach, and the operational history of the VARTF ILF Program into its efforts to select and evaluate compensatory mitigation sites.

The board intends to approve the VARTF 2021 CPF. In addition to the advances discussed, the 2021 CPF includes a subset of site selection criteria that follows the ConserveVirginia: Virginia's Land Conservation Strategy, Version 2.0, as outlined by the Virginia Department of Conservation and Recreation (DCR). According to DCR, ConserveVirginia "is a key tool in guiding Virginia's investments in land and water conservation, providing a map of Virginia's highest conservation value lands, based on 19 mapped data inputs. The ConserveVirginia map includes more than six million acres of lands representing top priority conservation values" in categories such as natural habitat and habitat diversity, floodplain resilience, cultural and historic preservation, water quality improvement, and scenic preservation (<https://www.dcr.virginia.gov/conservevirginia/>).

An ILF Program may be one of several practicable options available to applicants to compensate for unavoidable wetland

and stream impacts associated with permits issued by (i) the U.S. Army Corps of Engineers Norfolk District (USACE) pursuant to § 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act and (ii) the Virginia Department of Environmental Quality (DEQ) pursuant to § 401 of the Clean Water Act and Title 62.1 of the Code of Virginia. USACE and DEQ provide no guarantee that a specific individual permit or general permit will be granted authorization to use this ILF Program to compensate for unavoidable impacts associated with that specific permit. Authorization by the Virginia Marine Resources Commission may also be required for ILF Program use for specific projects.

Approval of the VARTF 2021 CPF may be made by written notice by the board, acting through DEQ, after accepting and considering public comments on its approval for at least a 30-day public comment period pursuant to 9VAC25-210-116 D.

A copy of this public notice and the VARTF 2021 CPF will be available on May 24, 2021, on the DEQ website Wetlands and Streams Public Notice page at <https://www.deq.virginia.gov/permits-regulations/public-notices/water/wetlands-streams>, under the Program and Regulatory section or by calling or emailing David L. Davis, DEQ Office of Wetlands and Stream Protection. The comment period begins on May 24, 2021. Written comments, including those by email, must be received no later than 11:59 p.m. on June 24, 2021, and should be submitted to David L. Davis using the contact information listed. Only those comments received within the comment period will be considered by the Board. Written comments shall include the name, address, and telephone number of the writer, shall reference "VARTF 2021 CPF" in the subject line, and shall contain a complete, concise statement of the factual basis for comments.

Contact Information: Cindy Berndt, Regulatory Coordinator, Department of Environmental Quality, 1111 East Main Street, Suite 1400, P.O. Box 1105, Richmond, VA 23218, telephone (804) 698-4378, FAX (804) 698-4178.

VIRGINIA CODE COMMISSION

Notice to State Agencies

Contact Information: *Mailing Address:* Virginia Code Commission, Pocahontas Building, 900 East Main Street, 8th Floor, Richmond, VA 23219; *Telephone:* (804) 698-1810; *Email:* varegs@dls.virginia.gov.

Meeting Notices: Section 2.2-3707 C of the Code of Virginia requires state agencies to post meeting notices on their websites and on the Commonwealth Calendar at <https://commonwealthcalendar.virginia.gov>.

Cumulative Table of Virginia Administrative Code Sections Adopted, Amended, or Repealed: A table listing regulation sections that have been amended, added, or repealed in the *Virginia Register of Regulations* since the regulations

General Notices

were originally published or last supplemented in the print version of the Virginia Administrative Code is available at <http://register.dls.virginia.gov/documents/cumultab.pdf>.

Filing Material for Publication in the *Virginia Register of Regulations*: Agencies use the Regulation Information System (RIS) to file regulations and related items for publication in the *Virginia Register of Regulations*. The Registrar's office works closely with the Department of Planning and Budget (DPB) to coordinate the system with the Virginia Regulatory Town Hall. RIS and Town Hall complement and enhance one another by sharing pertinent regulatory information.

ERRATA

STATE WATER CONTROL BOARD

Title of Regulation: **9VAC25-630. Virginia Pollution Abatement (VPA) Permit Regulation for Poultry Waste Management.**

Publication: 37:11 VA.R. 1076-1097 January 18, 2021.

Correction to Final Regulation:

9VAC25-630-80 C 4, page 1096, first column, last line, change "3" to "4"

VA.R. Doc. No. R19-5666; Filed May 4, 2021, 11:15 a.m.

STATE BOARD OF HEALTH

Title of Regulation: **12VAC5-421. Food Regulations.**

Publication: 37:18 VA.R. 2687-2738 April 26, 2021.

Correction to Final Regulation:

Page 2688, Effective Date, after "June" replace "10" with "24"

VA.R. Doc. No. R21-5671; Filed May 14, 2021, 8:30 a.m.

