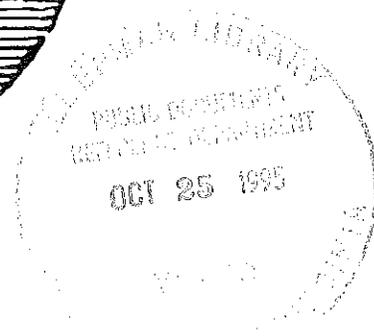
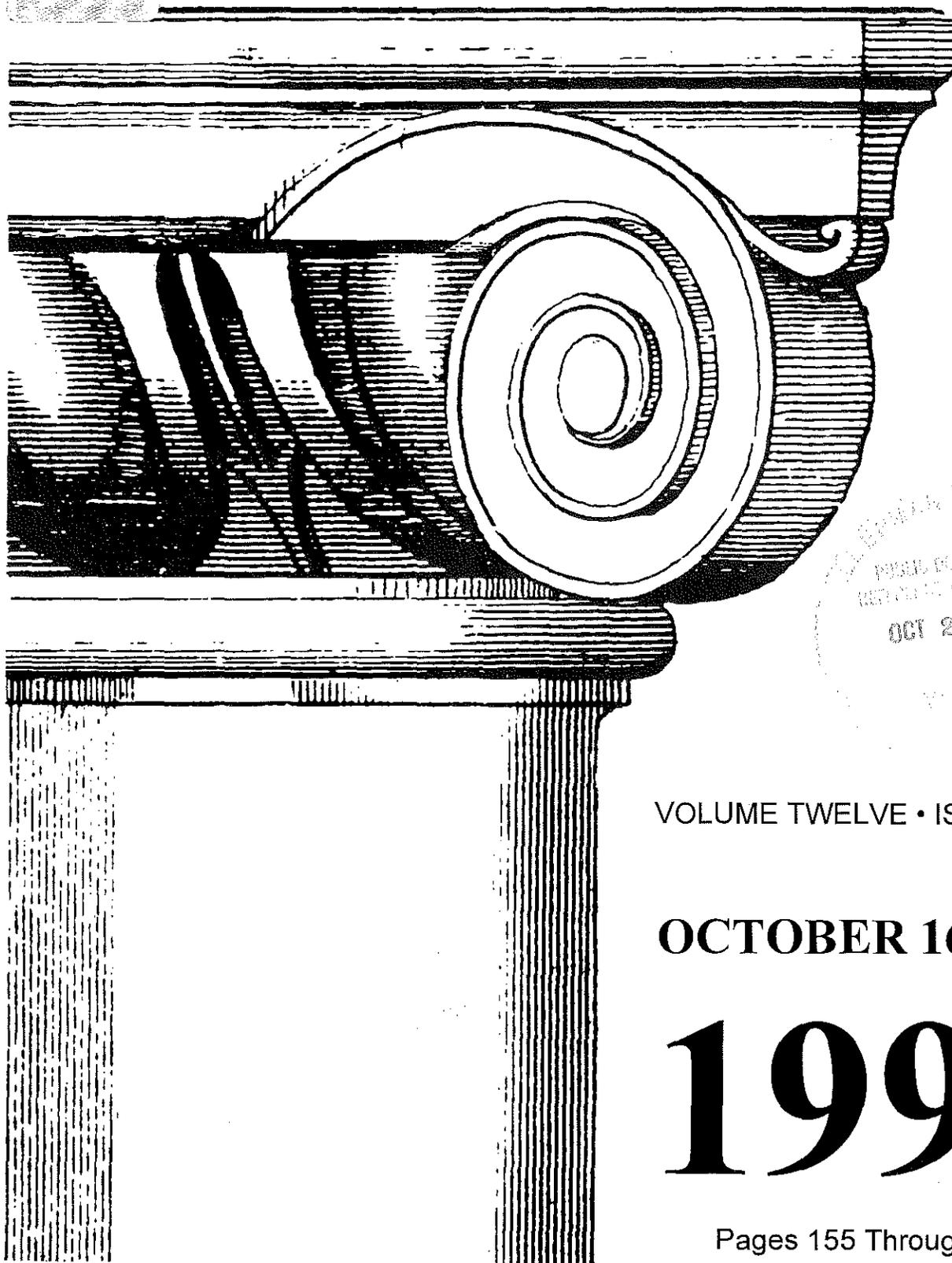


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# THE VIRGINIA REGISTER

OF REGULATIONS

VA  
DOC



VOLUME TWELVE • ISSUE TWO

OCTOBER 16, 1995

# 1995

Pages 155 Through 358

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# THE VIRGINIA REGISTER INFORMATION PAGE

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The *Virginia Register* is an official state publication issued every other week throughout the year. Indexes are published quarterly, and the last index of the year is cumulative.

The *Virginia Register* has several functions. The full text of all regulations, both as proposed and as finally adopted or changed by amendment, is required by law to be published in *The Virginia Register of Regulations*.

In addition, the *Virginia Register* is a source of other information about state government, including all Emergency Regulations issued by the Governor, and Executive Orders, the Virginia Tax Bulletin issued periodically by the Department of Taxation, and notices of all public hearings and open meetings of state agencies.

## ADOPTION, AMENDMENT, AND REPEAL OF REGULATIONS

An agency wishing to adopt, amend, or repeal regulations must first publish in the *Virginia Register* a notice of proposed action; a basis, purpose, impact and summary statement; a notice giving the public an opportunity to comment on the proposal; and the text of the proposed regulations.

Under the provisions of the Administrative Process Act, the Registrar has the right to publish a summary, rather than the full text, of a regulation which is considered to be too lengthy. In such case, the full text of the regulation will be available for public inspection at the office of the Registrar and at the office of the promulgating agency.

Following publication of the proposal in the *Virginia Register*, sixty days must elapse before the agency may take action on the proposal.

During this time, the Governor and the General Assembly will review the proposed regulations. The Governor will transmit his comments on the regulations to the Registrar and the agency and such comments will be published in the *Virginia Register*.

Upon receipt of the Governor's comment on a proposed regulation, the agency (i) may adopt the proposed regulation, if the Governor has no objection to the regulation; (ii) may modify and adopt the proposed regulation after considering and incorporating the Governor's suggestions; or (iii) may adopt the regulation without changes despite the Governor's recommendations for change.

The appropriate standing committee of each branch 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 twenty-one days after receipt by the agency of a legislative objection, the agency shall file a response with the Registrar, the objecting legislative committee, and the Governor.

When final action is taken, the promulgating agency must again publish the text of the regulation as adopted, highlighting and explaining any substantial changes in the final regulation. A thirty-day final adoption period will commence upon publication in the *Virginia Register*.

The Governor will review the final regulation during this time and if he objects, forward his objection to the Registrar and the agency. His objection will be published in the *Virginia Register*. If the Governor finds that changes made to the proposed regulation are substantial, he may suspend the regulatory process for thirty days and require the agency to solicit additional public comment on the substantial changes.

A regulation becomes effective at the conclusion of this thirty-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 twenty-one day extension period; or (ii) the Governor exercises his authority to suspend the regulatory process for solicitation of 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 suspended the regulatory process.

Proposed action on regulations may be withdrawn by the promulgating agency at any time before the regulation becomes final.

## EMERGENCY REGULATIONS

If an agency determines that an emergency situation exists, it then requests the Governor to issue an emergency regulation. The emergency regulation becomes operative upon its adoption and filing with the Registrar of Regulations, unless a later date is specified. Emergency regulations are limited in time and cannot exceed a twelve-month duration. The emergency regulations will be published as quickly as possible in the *Virginia Register*.

During the time the emergency status is in effect, the agency may proceed with the adoption of permanent regulations through the usual procedures (See "Adoption, Amendment, and Repeal of Regulations," above). If the agency does not choose 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 (§ 9-6.14:7.1 et seq.) of Chapter 1.1:1 of the Code of Virginia be examined carefully.

## CITATION TO THE VIRGINIA REGISTER

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October 16, 1995

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October 30, 1995

October 25, 1995

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December 6, 1995

December 25, 1995

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January 17, 1996

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# NOTICES OF INTENDED REGULATORY ACTION

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## Symbol Key

† Indicates entries since last publication of the *Virginia Register*

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## STATE AIR POLLUTION CONTROL BOARD

### † Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the State Air Pollution Control Board intends to consider amending regulations entitled: **VR 120-01. Regulations for the Control and Abatement of Air Pollution (Revision UU)**. The purpose of the proposed action is to amend the regulation to make it conform to the federal requirements for prevention of significant deterioration new source review programs by adding provisions concerning air quality increments for particulate matter (PM<sub>10</sub>) and modeling guidelines.

**Public Meeting:** A public meeting will be held by the Department of Environmental Quality in House Committee Room One, State Capitol Building, Capitol Square, Richmond, Virginia, at 10 a.m. on November 15, 1995, to discuss the intended action. Unlike a public hearing, which is intended only to receive testimony, this meeting is being held to discuss and exchange ideas and information relative to regulation development.

**Ad Hoc Advisory Group:** The department is soliciting comments on the advisability of forming an ad hoc advisory group, utilizing a standing advisory committee or consulting with groups or individuals registering interest in working with the department to assist in the drafting and formation of any proposal. Any comments relative to this issue must be submitted in accordance with the procedures described under the "Request for Comments" section.

**Public Hearing Plans:** The department will hold at least one public hearing to provide opportunity for public comment on any regulation amendments drafted pursuant to this notice.

**Need:** Among the primary goals of the Clean Air Act are the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and the prevention of significant deterioration (PSD) of air quality in areas cleaner than the NAAQS. The NAAQS, developed and promulgated by the U.S. Environmental Protection Agency (EPA), establish the maximum limits of pollutants that are permitted in the outside ambient air. EPA requires that each state submit a plan (the State Implementation Plan or SIP), including any laws and regulations necessary to enforce the plan, showing how the air pollution concentrations will be reduced to levels at or below these standards (attainment). Once the pollution levels are within the standards, the plan must also demonstrate how the state will maintain the air pollution concentrations at the reduced levels (maintenance). The Virginia SIP was submitted to EPA in early 1972. Many revisions to the SIP have been made since the original submittal in 1972. The Clean Air Act is specific concerning the elements required for an acceptable SIP. If a state does not prepare a SIP, or EPA does not approve a submitted SIP, then EPA itself is empowered to take the necessary actions to attain and maintain air quality

standards. Generally, the SIP is revised, as needed, based upon changes in the federal Clean Air Act and its requirements.

The PSD program is designed to protect air quality in areas where the air is cleaner than required by the NAAQS. The program has three classifications for defining the level of allowable degradation: Class I is the most stringent classification, allowing for little additional pollution, while Class III allows the most. All of Virginia is classified at the moderate level, Class II, with the exception of two Class I federal lands.

PSD's primary control strategy is new source review. Prior to construction or expansion of an industrial facility, a permit must be obtained that demonstrates that the facility will not emit pollutants in sufficient quantity to make a significant contribution to the deterioration of air quality or to violate the NAAQS.

In 1972, EPA declared all state plans to control air pollution inadequate because they did not provide for prevention of significant deterioration of air quality. EPA issued its own PSD regulations in 1974, which provided for three area classifications which would allow for three different levels of degradation, and required that new or modified major sources obtain a permit from EPA to construct. By 1978, EPA updated its PSD regulations, which then underwent considerable revision and controversy.

Because the federal PSD regulations were frequently in litigation and it was difficult to develop stable plans, most states, including Virginia, opted to accept a federal implementation plan (FIP) in lieu of a SIP. EPA promulgated a FIP but, due to limited enforcement resources, allowed states to enforce it under a delegated program approach. Since that time, the program has stabilized, and the states have gained considerable experience in carrying out the program.

EPA's plan, which consists of new source review, had been delegated to the State Air Pollution Control Board. To implement the EPA plan, the Board had new source review regulations (Section 120-08-02 of VR 120-01) for a PSD program that were essentially identical to EPA's. In 1993, Virginia submitted a SIP revision requesting that the state be granted full PSD authority.

Since the PSD SIP revision was submitted to EPA, EPA has revised its PSD program in two areas. The maximum allowable increases (increments) for particulate matter have been revised, from being based on total suspended particulate (TSP) to being based on particulate with an aerodynamic diameter of less than or equal to 10 micrometers (PM<sub>10</sub>). The "Guideline on Air Quality Models (Revised)", which sets forth air quality models and guidance for estimating ambient air concentrations for PSD purposes has also been revised.

EPA is in the process of reviewing Virginia's proposed PSD SIP. In the interim, the state must keep its PSD regulations on track with EPA's revisions and additions, specifically, revisions to particulate matter increments and to the modeling guidelines.

# Notices of Intended Regulatory Action

## Alternatives:

1. Amend the regulations to satisfy the provisions of the Clean Air Act and associated EPA regulations and policies.
2. Make alternative regulatory changes to those required by the Act. If these alternative regulatory changes do not meet EPA's PSD program requirements, then the state's PSD program will not be acceptable to EPA, which may then impose a Federal Implementation Plan.
3. Take no action to amend the regulations and continue to operate under the federal implementation plan.

Costs and Benefits: The department is soliciting comments on the costs and benefits of the alternatives stated above or other alternatives.

Applicable Statutory Requirements: Part C of Title I of the Clean Air Act Amendments of 1990 (42 USC 7471) is entitled, "Prevention of Significant Deterioration of Air Quality." As described in section 160, the purpose of Part C is to protect existing clean air resources. Part C requires that the state implementation plan include a prevention of significant deterioration (PSD) program. Section 161 of Part C says:

In accordance with the policy of section 101(b)(1), each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations promulgated under this part, to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to section 107 as attainment or unclassifiable.

This means that the air in areas that meet national clean air standards may not be allowed to become less clean, that is, to deteriorate.

Section 165, "Preconstruction Requirements," is the section of the Act that deals with new source review permit programs. This section requires that sources obtain permits demonstrating that they will not contribute to air pollution in excess of that allowed by the Act. Section 165 also specifies what steps are needed to coordinate this permitting process with the Federal Land Managers, who are responsible for maintaining air quality in the cleanest areas of the country: the national parks.

Section 166 of the Act requires EPA to regulate certain types of pollutants in PSD areas. Subsection f of Section 166 authorizes EPA to specify maximum allowable increases in particulate matter in terms of very small particulate, that is, PM<sub>10</sub>. Part of the proposed regulatory amendments focus on this particular provision of the Act.

EPA's regulation promulgated in response to Part C of the Act is found in the Code of Federal Regulations, 40 CFR Part 51, Section 51.166. This section requires that ". . . each applicable state implementation plan shall contain emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality," and includes specific detail on how relevant new source review permit programs are to be developed and implemented. Ambient air increments are specified throughout this section, and include specific particulate matter levels. Subsection (l), "Air Quality Models,"

describes the EPA guidelines to be used when performing PSD modeling.

EPA has recently revised its PSD program in two areas. Particulate matter requirements in 40 CFR Part 51, Section 51.166, Prevention of significant deterioration of air quality, have been changed. The maximum allowable increments for particulate matter have been revised from being based on total suspended particulate to being based on PM<sub>10</sub>. This revision is set out in the Federal Register of June 3, 1993 (58 FR 31622). The "Guidelines on Air Quality Models (Revised)," which sets forth air quality models and guidance for estimating ambient air concentrations for PSD purposes, has been revised twice. This primarily affects 40 CFR Part 51, Appendix W. The revisions are described in the Federal Register of July 20, 1993 (58 FR 38816) and of August 9, 1995 (60 FR 40465).

Statutory Authority: § 10.1-1308 of the Code of Virginia.

Public comments may be submitted until 4:30 p.m. on November 16, 1995, to the Director, Office of Air Program Development, Department of Environmental Quality, P.O. Box 10009, Richmond, Virginia 23240.

**Contact:** Karen G. Sabasteanski, Policy Analyst, Office of Air Program Development, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4426.

VA.R. Doc. No. R96-32; Filed September 27, 1995, 10:57 a.m.

## **Notice of Intended Regulatory Action**

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the State Air Pollution Control Board intends to consider promulgating regulations entitled: **VR 120-99-06. Regulations for the Control of Motor Vehicle Emissions in the Northern Virginia Area.** The purpose of the proposed action is to develop a regulation which conforms to state law and federal Clean Air Act requirements for the testing of emissions from motor vehicles located or primarily operated in Northern Virginia.

Public Meeting: A public meeting will be held by the department in the auditorium, Lee High School, 6540 Franconia Road, Springfield, Virginia, at 7 p.m. on November 2, 1995, to discuss the intended action. Unlike a public hearing, which is intended only to receive testimony, this meeting is being held to discuss and exchange ideas and information relative to regulation development.

Accessibility to Persons with Disabilities: The meeting is being held at a public facility believed to be accessible to persons with disabilities. Any person with questions on the accessibility of the facility should contact Ms. Alma Jenkins at the Office of Air Program Development, Department of Environmental Quality, P.O. Box 10009, Richmond, Virginia 23240, or by telephone at (804) 762-4070 or TDD (804) 762-4021. Persons needing interpreter services for the deaf must notify Ms. Jenkins no later than October 19, 1995.

Ad Hoc Advisory Group: The department will form an ad hoc advisory group to assist in the development of the regulation. If you desire to be on the group, notify the agency contact in writing by 4:30 p.m. November 6, 1995, and provide your

## Notices of Intended Regulatory Action

name, address, phone number and the organization you represent (if any). Notification of the composition of the ad hoc advisory group will be sent to all applicants. If you wish to be on the group, you are encouraged to attend the public meeting mentioned above. The primary function of the group is to develop a recommended regulation for department consideration through the collaborative approach of regulatory negotiation and consensus.

**Public Hearing Plans:** After publication in the Virginia Register of Regulations, the department will hold at least one public hearing to provide opportunity for public comment on any regulation drafted pursuant to this notice.

**Need:** One of the primary goals of the federal Clean Air Act (Act) is the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). These standards, designed to protect public health and welfare, apply to six pollutants, of which ozone is the primary focus of this proposed action. Ozone is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) in the air react together in the presence of sunlight. VOCs are chemicals contained in gasoline, polishes, paints, varnishes, cleaning fluids, inks, and other household and industrial products. NO<sub>x</sub> emissions are a by-product from the combustion of fuels and industrial processes.

The National Ambient Air Quality Standard for ozone is 0.12 parts per million (ppm) and was established by the U.S. Environmental Protection Agency (EPA) to protect the health of the general public with an adequate margin of safety. When concentrations of ozone in the ambient air exceed the federal standard the area is considered to be out of compliance and is classified as "nonattainment." Numerous counties and cities within the Northern Virginia, Richmond, and Hampton Roads areas have been identified as ozone nonattainment areas according to new provisions of the Act.

States are required to develop plans to ensure that areas will come into compliance with the federal health standard. Failure to develop adequate programs to meet the ozone air quality standard: (i) may result in the continued violations of the standard and subsequent negative affects on human health, (ii) may result in assumption of the program by EPA at which time the Commonwealth would lose authority over matters affecting its citizens, and (iii) may result in the implementation of sanctions by EPA, such as more restrictive requirements on new major industrial facilities and loss of federal funds for highway construction. Furthermore, if a particular area fails to attain the federal standard by the legislatively mandated attainment date, EPA is required to reassign it to the next higher classification level (denoting a worse air quality problem), thus subjecting the area to more stringent control requirements.

Motor vehicle emissions inspection programs, known as inspection and maintenance (I/M) programs, are an integral part of the effort to reduce mobile source air pollution. Cars and trucks create about half of the ozone air pollution. Of all highway vehicles, passenger cars and light trucks emit most of the vehicle-related carbon monoxide and ozone-forming hydrocarbons. Tremendous progress has been made in reducing these pollutants; however, total vehicle emissions remain high. This is because the number of vehicle miles travelled on our highways has doubled in the last 20 years,

offsetting much of the technological progress in vehicle emission control over the same two decades. Ongoing efforts to reduce emissions from individual vehicles will be necessary to achieve our air quality goals.

I/M programs achieve their objective by identifying vehicles that have high emissions as a result of one or more malfunctions and requiring them to be repaired. Minor malfunctions in the emissions control system can increase emissions significantly. The average car on the road can emit three to four times the carbon monoxide and hydrocarbons allowed by new car standards if emission control systems are malfunctioning. Unfortunately, rarely is it obvious which cars have malfunctions as the emissions themselves may not be noticeable and emission control malfunctions do not necessarily affect vehicle driveability.

I/M programs provide a way to check whether the emission control systems on a vehicle are working correctly. All new passenger cars and trucks sold in the United States today must meet stringent air pollution standards and those standards became more stringent in model year 1994, but they can only retain this low-polluting profile if the emission controls and engine are functioning properly. An I/M program is designed to ensure that vehicles stay clean in actual use. This, in turn, can substantially reduce the amount of volatile organic compounds, carbon monoxide, and nitrogen oxides emitted to the ambient air, thereby reducing the formation of ozone, lowering ozone concentrations, and contributing toward attainment of the NAAQS.

### Alternatives:

1. Draft new regulations which will provide for implementation of a motor vehicle emissions testing program that meets the provisions of the state code, federal Clean Air Act and associated EPA regulations and policies.
2. Draft new regulations which will provide for implementation of a motor vehicle emissions testing program that does not meet the provisions, or meets alternative provisions, of the state code, federal Clean Air Act and associated EPA regulations and policies. No regulatory alternatives to an enhanced I/M program have been promulgated by EPA as meeting the requirements of the Act. Adopting an unapprovable program will result in sanctions being imposed by EPA.
3. Take no action to develop the regulations and risk sanctions by EPA.

**Costs and Benefits:** The department is soliciting comments on the costs and benefits of the alternatives stated above or other alternatives.

**Applicable Statutory Requirements:** The 1990 amendments to the Clean Air Act established a process for evaluating the air quality in each region and identifying and classifying each nonattainment area according to the severity of its air pollution problem. Nonattainment areas are classified as marginal, moderate, serious, severe and extreme. Marginal areas are subject to the least stringent requirements and each subsequent classification (or class) is subject to successively more stringent control measures. Areas in a higher classification of nonattainment must meet the mandates of the

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## Notices of Intended Regulatory Action

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lower classifications plus the more stringent requirements of its own class. Virginia's ozone nonattainment areas are classified as marginal for the Hampton Roads Nonattainment Area, moderate for the Richmond Nonattainment Area, and serious for the Northern Virginia Nonattainment Area.

The Northern Virginia area has an ozone air pollution problem classified by the EPA as "serious." The problem is a result of emissions from both industrial sources and motor vehicles. The Act requires that all areas classified as serious must implement an enhanced vehicle emissions inspection and maintenance program, commonly referred to as I/M.

Section 182(c)(3) of the Clean Air Act requires that the state submit revisions to the state implementation plan to "provide for an enhanced program to reduce hydrocarbon emissions and NO<sub>x</sub> emissions from in-use motor vehicles..." The program "shall comply in all respects with guidance...by the Administrator..." The Act requires that enhanced I/M Programs be implemented within two years of enactment (11/16/90) of the Clean Air Act Amendments of 1990. The program implemented by the state must achieve a performance standard equal to:

(i) "...a program combining emission testing, including on-road emission testing, with inspection to detect tampering with emission control devices and misfueling for all light-duty vehicles and all light-duty trucks subject to standards under section 202; and

(ii) program administration features necessary to reasonably assure that adequate management resources, tools, and practices are in place to attain and maintain the performance standard."

The compliance method is to be established, per the Act, by EPA. The state program, per the Act, must include, at a minimum:

- Computerized emission analyzers, including on-road testing devices.
- No waivers for vehicles and parts covered by an emission control performance warranty.
- For non-warranty situations, waivers only after \$450 (in 1990 dollars) has been spent for emissions-related repairs.
- Enforcement through registration denial.
- Annual testing unless biennial testing, in combination with other features, will equal or exceed emissions reductions obtainable through annual inspections.
- Operation on a centralized basis unless the state demonstrates to the satisfaction of the Administrator that a decentralized program will be equally effective.

This law is implemented by EPA through 40 CFR Part 51, subpart S. The performance standard for the program is contained in § 51.351, "Enhanced I/M Performance Standard." It includes:

- Centralized testing.
- Annual testing.
- Testing of 1968 and later model year vehicles.

- Transient, mass emissions testing on 1986 and later model year vehicles, two-speed idle testing of 1981-1985 vehicles, and single-speed idle testing of pre-1981 vehicles.
- Testing of light duty vehicles and trucks.
- Emissions standards according to model year and weight class as enumerated in § 51.351(a)(7).
- Visual inspection of the catalyst and fuel inlet restrictor on all 1984 and later model year vehicles.
- Evaporative system integrity (pressure) test on 1983 and later vehicles and an evaporative system transient purge test on 1986 and later vehicles.
- Twenty percent emission test failure rate among pre-1981 model year vehicles
- Three percent waiver rate
- Ninety-six percent compliance rate
- On-road testing of at least 0.5% of the subject vehicle population.

Under the current rule, the state has some flexibility to design its own program and demonstrate that it is as effective as the EPA model program in reducing emissions. EPA intends to issue a new rulemaking under the Act to revise some requirements for enhanced I/M program. There may be additional, albeit limited, flexibility on test equipment and program design than exists under the rule conditions outlined above.

Sections 46.2-1176 through 46.2-1187.3 of the Virginia Motor Vehicle Emissions Control Law (Title 46.2, Chapter 10, Article 22 of the Code of Virginia) requires a "test and repair enhanced emissions inspection program" for vehicles that have actual gross weights of 10,000 pounds or less and are registered in the Counties of Arlington, Fairfax, Loudoun, Prince William, Stafford, and Fauquier and the Cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park. Key provisions of the legislation include:

- A biennial inspection;
- An inspection fee cap of \$20;
- A minimum repair cost of \$450 (in 1990 dollars) in order to qualify for a waiver, and requirement that repairs to qualify for a waiver be done by a certified repair technician;
- Motor vehicles being titled for the first time may be registered for up to two years without being subject to an emissions inspection;
- An exemption for any of the following vehicles, (i) vehicles powered by a clean special fuel as defined in § 58.1-2101, (ii) motorcycles, (iii) vehicles which, at the time of manufacture were not designed to meet emission standards set or approved by the federal government, (iv) any antique motor vehicle as defined in § 46.2-100 and licensed pursuant to § 46.2-730, or (v) vehicles for which no testing standards have been adopted by the board;

# Notices of Intended Regulatory Action

- The requirement for the inspection to apply to all vehicles registered and/or operated in the affected area including (i) vehicles owned by government entities, (ii) vehicles owned by military personnel residing in the affected areas, and (iii) vehicles owned by leasing or rental companies;
- The certification of motor vehicle emissions repair technicians and emissions repair facilities, including the suspension or revocation of such certification;
- In addition to biennial testing of all subject vehicles, on-road testing of motor vehicles in use and requirement for follow-up testing of those vehicles which exceed emissions standards; and

The state code directs the State Air Pollution Control Board to adopt regulations to implement the program.

Statutory Authority: § 46.2-1176 et seq. of the Code of Virginia.

**Contact:** David J. Kinsey, Policy Analyst, Air Programs Section, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4432, FAX (804) 762-4510, toll-free 1-800-592-5482 or (804) 762-4021/TDD ☎

VA.R. Doc. No. R96-20; Filed September 13, 1995, 11:52 a.m.

## DEPARTMENT OF CRIMINAL JUSTICE SERVICES (CRIMINAL JUSTICE SERVICES BOARD)

### † Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Criminal Justice Services Board intends to consider amending regulations entitled: VR 240-03-2 [ 6 VAC 20-70-10 et seq. ] Regulations Relating to Private Security Services. The purpose of the proposed action is to ensure that the schedule of fees associated with these regulations is consistent with the cost of administering the private security services program, and that the public safety and welfare is adequately secured against unfit or unqualified persons engaged in the activities of private security services. The agency intends to hold a public hearing on the proposed regulation after publication.

Statutory Authority: § 9-182 of the Code of Virginia.

Public comments may be submitted until November 15, 1995, to Leon D. Baker, Private Security Section, Department of Criminal Justice Services, P.O. Box 10110, Richmond, VA 23240.

**Contact:** Paula Scott Dehetre, Regulatory Coordinator, Department of Criminal Justice Services, 805 E. Broad St., Richmond, VA 23219, telephone (804) 786-4000 or FAX (804) 786-6344.

VA.R. Doc. No. R96-37; Filed September 27, 1995, 12:08 p.m.

## DEPARTMENT OF GENERAL SERVICES

### Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Department of General Services intends to consider amending regulations entitled: VR 330-02-01 [ 1 VAC 30-50-10 et seq. ] Regulations for Breath Alcohol Testing. The purpose of the proposed action is to provide a means of evaluation, approval, maintenance and certification of evidential breath test devices; training and licensing of breath test operators; and evaluation and approval of preliminary breath testing devices. The agency does not intend to hold a public hearing on the proposed regulation after publication.

Statutory Authority: §§ 18.2-267 and 18.2-268.9 of the Code of Virginia.

Public comments may be submitted until November 1, 1995, to Robin Porter, Division of Forensic Science, Department of General Services, One North 14th Street, Richmond, VA 23219.

**Contact:** Frances V. Wright, Administrative Assistant, Department of General Services, 202 N. 9th St., Suite 209, Richmond, VA 23219, telephone (804) 786-3311, FAX (804) 371-8305 or (804) 786-6152☎

VA.R. Doc. No. R96-1; Filed September 1, 1995, 3:38 p.m.

## DEPARTMENT OF MEDICAL ASSISTANCE SERVICES

### Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Department of Medical Assistance Services intends to consider amending regulations entitled: VR 460-04-8.5. Home and Community Based Services for Technology Assisted Individuals. The purpose of the proposed action is to revise the regulations to reflect recent changes in the waiver and changes in HCFA's interpretation of federal guidelines. The agency does not intend to hold a public hearing on the proposed regulation after publication.

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

Public comments may be submitted until November 1, 1995, to Michelle Baker, Department of Medical Assistance Services, 600 East Broad Street, Suite 1300, Richmond, VA 23219.

**Contact:** Victoria P. Simmons or Roberta J. Jonas, Regulatory Coordinators, Department of Medical Assistance Services, 600 E. Broad St., Suite 1300, Richmond, VA 23219, telephone (804) 371-8850 or FAX (804) 371-4981.

VA.R. Doc. No. R96-13; Filed September 12, 1995, 11:43 a.m.

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# Notices of Intended Regulatory Action

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## BOARD OF NURSING

### Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14-14:7.1 of the Code of Virginia that the Board of Nursing intends to consider amending regulations entitled: **VR 495-01-1 [18 VAC 90-20-10 et seq.] Board of Nursing Regulations.** The purpose of the proposed action is to replace an emergency regulation which established a fee of \$20 for renewal of nurse aide certification in order to provide sufficient funding for the investigation and adjudication of complaints. The agency intends to hold a public hearing on the proposed regulation after publication.

Statutory Authority: §§ 54.1-113 and 54.1-2400 of the Code of Virginia.

Public comments may be submitted until October 18, 1995.

**Contact:** Corinne Dorsey, R.N., Executive Director, Board of Nursing, 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9909, FAX (804) 662-9943 or (804) 662-7197/TDD ☎

VA.R. Doc. No. R95-721; Filed August 30, 1995, 2:27 p.m.

## DEPARTMENT OF STATE POLICE

### Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Department of State Police intends to consider amending regulations entitled: **VR 545-01-16 [19 VAC 30-150-10 et seq.] Regulations Relating to Standards and Specifications for Overdimensional Warning Lights.** The purpose of the proposed action is to revise the Standards and Specifications for Overdimensional Warning Lights by making it more consistent with the Society of Automotive Engineers (SAE) standards. Minor technical and administrative changes are included. The agency does not intend to hold a public hearing on the proposed regulation after publication.

Statutory Authority: § 46.2-1026 of the Code of Virginia.

Public comments may be submitted until November 2, 1995.

**Contact:** Captain W. Steven Flaherty, Safety Officer, Department of State Police, Safety Division, P.O. Box 85607, Richmond, VA 23285-5607, telephone (804) 378-3479 or FAX (804) 378-3487.

VA.R. Doc. No. R96-11; Filed September 12, 1995, 3:51 p.m.

### Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Department of State Police intends to consider amending regulations entitled: **VR 545-01-17 [19 VAC 30-160-10-et seq.] Regulations Relating to Standards and Specifications for Safety Lights for Farm Tractors in Excess of 108 Inches in Width.** The purpose of

the proposed action is to revise the Standards and Specifications for Safety Lights for Farm Tractors in Excess of 108 Inches in Width by making it more consistent with the Society of Automotive Engineers (SAE) standards. Minor technical and administrative changes are included. The agency does not intend to hold a public hearing on the proposed regulation after publication.

Statutory Authority: § 46.2-1102 of the Code of Virginia.

Public comments may be submitted until November 2, 1995.

**Contact:** Captain W. Steven Flaherty, Safety Officer, Department of State Police, Safety Division, P.O. Box 85607, Richmond, VA 23285-5607, telephone (804) 378-3479 or FAX (804) 378-3487.

VA.R. Doc. No. R96-12; Filed September 12, 1995, 3:50 p.m.

## VIRGINIA WASTE MANAGEMENT BOARD

### Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Virginia Waste Management Board intends to consider amending regulations entitled: **VR 672-20-10. Solid Waste Management Regulations.** The purpose of the proposed action is to reconsider sections of the regulations that are not mandated by state or federal laws; are not essential to protect health, safety or welfare of citizens of the Commonwealth; or are not essential for efficient and economical performance of important government functions. The board also proposes to consider less burdensome or intrusive alternatives to sections associated with the groundwater monitoring requirements and to improve the clarity of the regulations. The agency intends to hold a public hearing on the proposed regulation after publication.

**Need:** The board has received petitions from the regulated community for rulemaking to amend the Solid Waste Management Regulation. The board agrees that the areas of concern to the petitioners, relating to groundwater monitoring requirements, should be reviewed. The board proposes to consider less burdensome or intrusive alternatives to the sections associated with the groundwater monitoring requirements.

For example, Amendment 1 to the Virginia Solid Waste Management Regulation sets forth certain procedures to be followed relating to groundwater monitoring during the transition period between the effective date of the current state requirements (1988) and the effective date of federal requirements (1996) -- §§ 5.1 D, 5.2 D, and 5.3 D of the current regulation. In retrospect, these transitional procedures have proven themselves to be unnecessarily cumbersome to the regulated community. In response to requests by the Municipal Landfill Group, composed of representatives of a number of local governments, the board is interested in reviewing the administrative and substantive requirements for the state's Interim Groundwater Detection Monitoring Program. Additionally, the board needs to establish simplified statistical

# Notices of Intended Regulatory Action

procedures for the evaluation of the analytical results of groundwater monitoring obtained by the landfill operators.

In undertaking this regulatory action, the Department of Environmental Quality will also fulfill the requirements for regulatory review set forth in Executive Order 15 (94). Therefore, the board proposes to reconsider the existing regulations to ensure that the requirements are mandated by state or federal laws, are essential to protect the health, safety or welfare of the citizens of the Commonwealth, or are essential for efficient and economical performance of important government functions. The board also proposes to improve the overall clarity of the regulation.

Finally, the board will update numerous sections to reflect new, related regulations which it has promulgated and other regulations promulgated by the Air Pollution Control Board and the State Water Control Board.

**Subject Matter and Intent:** The board proposes to amend certain sections of the existing Solid Waste Management Regulations, VR 672-20-10. The existing regulations establish standards and procedures for the siting, design, construction, operation, maintenance, closure and post-closure care of solid waste management facilities in order to protect public health, safety, the environment and natural resources. Areas and actions to be considered include:

Updating Part II, Legislative Authority and General Information; updating Part III, Identification of Solid Wastes, to provide relief for properly managed waste tire processing facilities as is done for paper, glass and scrap metals; updating Part IV, Management of Open Dumps and Unpermitted Facilities, so that voluntary cleanup of sites is taken into account; such cleanups should be based on a risk-based standard concept; updating Part V by deleting sections dealing with interim detection phase monitoring of groundwater; updating § 5.4 dealing with landfill gas control to take into account Rule 4-43 - Sanitary Landfill Operations of the State Air Pollution Control Board; updating § 5.7 dealing with corrective action requirements to include risk-based standard concept; and adding a new Part X that would specify acceptable risk estimation methods to be used in connection with risk-based standards for voluntary cleanups and corrective action requirements.

**Estimated Impacts:** The intent of the proposed amendment is to substantially reduce procedural and substantive requirements of the current regulations. Because the department expects to receive and consider all comments from the public, it is difficult to estimate the extent of the possible cost savings to both the public and the department. However, the goal of the proposed rulemaking is to decrease the costs to the owners or operators of the solid waste management facilities and to the department while ensuring that the public health, safety and welfare, as well as the environment, is protected.

**Alternatives:** The board has so far considered two alternatives relative to amending the current regulation. First, is the "do nothing" alternative. The board believes this option is not practicable or feasible given the petition for rulemaking which has been received from the regulated community, the requirements for regulatory review as set forth in Executive

Order 15(94) and other changes needed to update the current regulations.

The second alternative is to proceed as proposed. While the department is requesting comments on the regulation as a whole, there are several areas of particular interest. Specifically, the department would like to receive comments on alternatives and their costs and benefits on the above mentioned sections, on additional streamlining of the permitting process especially as it pertains to industrial waste facilities, and on alternatives and their costs and benefits relating to on-site ("captive") landfills owned and operated solely to manage wastes generated by the manufacturing plant.

**Comments:** The department seeks oral and written comments from interested persons on the intended regulatory action and on the costs and benefits of the stated alternatives or any other alternatives. Written comments should be submitted to Dr. Walt Gulevich, Waste Division, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, (804) 762-4218, TDD (804) 762-4021, no later than 4 p.m., on Monday, October 23, 1995.

In addition, the department will hold a public meeting to hear oral comments and to answer questions of the public on Thursday, October 19, 1995, at 10:30 a.m. in the Board Room, Department of Environmental Quality, 4900 Cox Road, Glen Allen, Virginia.

**Accessibility to Persons With Disabilities:** The meeting will be held at a public facility believed to be accessible to persons with disabilities. Any persons with questions on the accessibility of the facilities should contact Dr. Gulevich at the address above. Persons needing interpreter services for the deaf must notify Dr. Gulevich no later than Monday, October 2, 1995.

**Advisory Committee/Group:** The department invites comments on whether it should appoint an ad hoc advisory group, use a standing advisory committee or consult with groups or individuals to assist in the development of the proposed action. If comments are submitted regarding the appointment of an ad hoc advisory group or the consultation with groups or individuals, please include the names and addresses of persons or organizations who would be willing to participate in this process. Comments and names may be submitted to Dr. Gulevich at the address below.

Statutory Authority: § 10.1-1402 of the Code of Virginia.

Public comments may be submitted until October 23, 1995.

**Contact:** Dr. Walt Gulevich, Assistant Director of Waste Operations, Waste Division, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240 (804)762-4218, FAX (804) 762-4327 or (804)762-4021/TDD ☎

VA.R. Doc. No. R95-709; Filed August 30, 1995, 9:17 a.m.

## STATE WATER CONTROL BOARD

### Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the State Water Control Board intends

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## Notices of Intended Regulatory Action

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to consider promulgating regulations entitled: **VR 680-14-09. Virginia Pollutant Discharge Elimination System (VPDES) General Permit Regulation for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day.** The purpose of the proposed action is to readopt a general permit for domestic sewage discharges less than or equal to 1,000 gallons per day. This action is necessary to continue the availability of the general permit to the approximately 800 treatment works currently covered by the general permit. The agency intends to hold a public hearing on the proposed regulation after publication.

**Basis and Statutory Authority:** The basis for this regulation is § 62.1-44.2 et seq. of the Code of Virginia. Specifically, § 62.1-44.15(5) authorizes the board to issue permits for the discharge of treated sewage, industrial wastes or other waste into or adjacent to state waters and § 62.1-44.15(7) authorizes the board to adopt rules governing the procedures of the board with respect to the issuance of permits. Further, § 62.1-44.15(10) authorizes the board to adopt such regulations as it deems necessary to enforce the general water quality management program; § 62.1-44.15(14) authorizes the board to establish requirements for the treatment of sewage, industrial wastes and other wastes; § 62.1-44.20 provides that agents of the board may have the right of entry to public or private property for the purpose of obtaining information or conducting necessary surveys or investigations; and § 62.1-44.21 authorizes the board to require owners to furnish information necessary to determine the effect of the wastes from a discharge on the quality of state waters.

Section 402 of the Clean Water Act (33 USC 1251 et seq.) authorizes states to administer the NPDES permit program under state law. The Commonwealth of Virginia received such authorization in 1975 under the terms of a Memorandum of Understanding with the U.S. EPA. This Memorandum of Understanding was modified on May 20, 1991, to authorize the Commonwealth to administer a General VPDES Permit Program.

**Need:** This proposed regulatory action is needed in order to continue the availability of the domestic sewage discharge general permit which was issued effective July 1, 1992, and which expires July 1, 1996. Unless this general permit regulation is readopted, the treatment works currently covered under the general permit will be required to apply for individual VPDES permits if they wish to continue to discharge to state waters.

**Subject and Intent:** General permits may be issued for categories of dischargers that involve the same or similar types of operations, discharge the same or similar types of wastes, require the same effluent limitations or operating conditions, and require the same or similar monitoring. The purpose of this proposed regulatory action is to readopt a general permit for domestic sewage discharge of 1,000 gallons per day or less. This general permit will cover the category of small domestic sewage treatment plants which are designed to treat up to 1,000 gallons of wastewater per day. These treatment plants are typically installed at individual homes when central sewer is not available and the soil conditions prohibit the use of septic tanks and drainfields. They may also be installed to treat domestic sewage from

duplexes, churches, gas stations, etc., where sewage flow is low and other treatment alternatives are not available. The intent of this proposed general permit regulation is to establish standard language for the limitations and monitoring requirements necessary to regulate this category of discharges under the VPDES permit program. The conditions of the proposed general permit are the same as those in the current general permit for this category which expires July 1, 1996.

**Estimated Impact:** There are approximately 870 treatment works currently covered under the domestic sewage discharge general permit. There may be other facilities which are currently operating under individual permits which could be covered by this general permit. Readoption of this regulation will allow for the continued streamlining of the permit process as it relates to the covered category of discharges. Coverage under the earlier issuance of this general permit has significantly reduced the paper work, time and expense of obtaining a permit for the owners in this category. Readoption of the proposed regulation would continue these benefits. The current general permit has also allowed the department to redirect staff resources to those discharges which, due to size or complexity, would not appropriately be covered by a general permit.

**Alternatives:** There are two alternatives for compliance with federal and state requirements to permit discharges from domestic sewage discharges less than or equal to 1,000 gallons per day. One is to issue individual VPDES permits to each treatment works. Prior to 1991 all of these discharges were permitted in this manner. The other alternative is to readopt and issue a general VPDES permit to cover this category of discharger. Because of the widespread acceptance of this general permit during its original term, the department believes that the general permit should be readopted.

**Comments:** The department seeks oral and written comments from interested persons on the intended regulatory action and on the costs and benefits of the stated alternatives. Also, the board seeks comment on whether the agency should form an ad hoc advisory group, utilize a standing advisory committee, or consult with groups or individuals to assist in the drafting and formulation of a proposal. To be considered, written comments should be directed to Mr. Richard Ayers at the address below and must be received by 4 p.m. on Monday, October 23, 1995.

**Public Meeting:** The board intends to hold a public meeting at 2 p.m. on Wednesday, October 18, 1995, in the Board Room, Department of Environmental Quality's offices, Innsbrook Corporate Center, 4900 Cox Road, Glen Allen, to receive views and comments and to answer questions of the public.

**Accessibility to Persons with Disabilities:** The meeting is being held at a public facility believed to be accessible to persons with disabilities. Any person with questions on the accessibility of the facility should contact Mr. Ayers at the address above or by telephone at (804) 762-4075. Persons needing interpreter services for the deaf must notify Mr. Ayers no later than Friday, October 6, 1995.

# Notices of Intended Regulatory Action

Public comment may be submitted until 4 p.m. on October 23, 1995.

Statutory Authority: § 62.1-44.15(10) of the Code of Virginia.

**Contact:** Richard Ayers, Water Division, Office of Water Resources Management, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4075.

VA.R. Doc. No. R95-710; Filed August 30, 1995, 9:16 a.m.

## Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the State Water Control Board intends to consider promulgating regulations entitled: **VR 680-14-24. General Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation for Car Washes.** The purpose of the proposed action is to establish appropriate and necessary permitting requirements for discharges of wastewater from car wash operations. The proposed regulation will set forth standard language for effluent limitations and monitoring requirements necessary to regulate this category of dischargers. The agency intends to hold a public hearing on the proposed regulation after publication.

**Basis and Statutory Authority:** The basis for this regulation is § 62.1-44.2 et seq. of the Code of Virginia. Specifically, § 62.1-44.15(5) authorizes the board to issue permits for the discharge of treated sewage, industrial wastes or other waste into or adjacent to state waters and § 62.1-44.15(7) authorizes the board to adopt rules governing the procedures of the board with respect to the issuance of permits. Further, § 62.1-44.15(10) authorizes the board to adopt such regulations as it deems necessary to enforce the general water quality management program; § 62.1-44.15(14) authorizes the board to establish requirements for the treatment of sewage, industrial wastes and other wastes; § 62.1-44.20 provides that agents of the board may have the right of entry to public or private property for the purpose of obtaining information or conducting necessary surveys or investigations; and § 62.1-44.21 authorizes the board to require owners to furnish information necessary to determine the effect of the wastes from a discharge on the quality of state waters.

Section 402 of the Clean Water Act (33 USC 1251 et seq.) authorizes states to administer the NPDES permit program under state law. The Commonwealth of Virginia received such authorization in 1975 under the terms of a Memorandum of Understanding with the U.S. EPA. This Memorandum of Understanding was modified on May 20, 1991, to authorize the Commonwealth to administer a General VPDES Permit Program.

**Need:** This proposed regulatory action is needed in order to establish appropriate and necessary permitting requirements for discharges of wastewater from car wash operations. These discharges are considered to be point sources of pollutants and thus are subject to regulation under the VPDES permit program. This general permit is being proposed in order to reduce the regulatory burden on these operations.

**Subject and Intent:** General permits may be issued for categories of dischargers that involve the same or similar types of operations, discharge the same or similar types of wastes, require the same effluent limitations or operating conditions, and require the same or similar monitoring. The purpose of this proposed regulatory action is to adopt a general permit for the wastewater discharges from car washes. The intent of this proposed general permit regulation is to establish standard language for effluent limitations and monitoring requirements necessary to regulate this category of discharges under the VPDES permit program.

**Estimated Impact:** There are 56 establishments currently holding individual VPDES permits in this industrial classification which may qualify for this proposed general permit. There may be other facilities which are currently operating without a permit which would be covered by this general permit. Adoption of this regulation will allow for the streamlining of the permit process as it relates to the covered category of discharges. Coverage under the general permit would reduce the paper work, time and expense of obtaining a permit for the owners and operators in this category. It is anticipated that the cost and amount of monitoring required under the general permit will be less than under individual permits. Adoption of the proposed regulation would also allow the department to redirect staff resources to those discharges which, due to size or complexity, would not appropriately be covered by a general permit.

**Alternatives:** There are two alternatives for compliance with federal and state requirements to permit discharges from car washes. One is to continue to issue individual VPDES permits to each establishment. The other is to adopt and issue a general VPDES permit to cover this category of discharger.

**Comments:** The department seeks oral and written comments from interested persons on the intended regulatory action and on the costs and benefits of the stated alternatives. Also, the board seeks comment on whether the agency should form an ad hoc advisory group, utilize a standing advisory committee, or consult with groups or individuals to assist in the drafting and formulation of a proposal. To be considered, written comments should be directed to Mr. Richard Ayers at the address below and must be received by 4 p.m. on Monday, October 23, 1995.

**Public Meeting:** The board intends to hold a public meeting at 2 p.m. on Wednesday, October 18, 1995, in the Board Room, Department of Environmental Quality's offices, Innsbrook Corporate Center, 4900 Cox Road, Glen Allen, to receive views and comments and to answer questions of the public.

**Accessibility to Persons with Disabilities:** The meeting is being held at a public facility believed to be accessible to persons with disabilities. Any person with questions on the accessibility of the facility should contact Mr. Ayers at the address above or by telephone at (804) 762-4075. Persons needing interpreter services for the deaf must notify Mr. Ayers no later than Friday, October 6, 1995.

Statutory Authority: § 62.1-44.15(10) of the Code of Virginia.

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# Notices of Intended Regulatory Action

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Public comment may be submitted until 4 p.m. on October 23, 1995.

**Contact:** Richard Ayers, Water Division, Office of Water Resources Management, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4075.

VA.R. Doc. No. R95-711; Filed August 30, 1995, 9:16 a.m.

## Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the State Water Control Board intends to consider promulgating regulations entitled: **VR 680-14-25. General Virginia Pollutant Discharge Elimination System (VPDES) General Permit Regulation for Ready-Mixed Concrete Plants.** The purpose of the proposed action is to establish standard language for the limitations and monitoring requirements necessary to regulate this category of discharges under the VPDES permit program and to accomplish this with the least regulatory burden on the dischargers. The agency intends to hold a public hearing on the proposed regulation after publication.

**Basis and Statutory Authority:** The basis for this regulation is § 62.1-44.2 et seq. of the Code of Virginia. Specifically, § 62.1-44.15(5) authorizes the board to issue permits for the discharge of treated sewage, industrial wastes or other waste into or adjacent to state waters and § 62.1-44.15(7) authorizes the board to adopt rules governing the procedures of the board with respect to the issuance of permits. Further, § 62.1-44.15(10) authorizes the board to adopt such regulations as it deems necessary to enforce the general water quality management program; § 62.1-44.15(14) authorizes the board to establish requirements for the treatment of sewage, industrial wastes and other wastes; § 62.1-44.20 provides that agents of the board may have the right of entry to public or private property for the purpose of obtaining information or conducting necessary surveys or investigations; and § 62.1-44.21 authorizes the board to require owners to furnish information necessary to determine the effect of the wastes from a discharge on the quality of state waters.

Section 402 of the Clean Water Act (33 USC 1251 et seq.) authorizes states to administer the NPDES permit program under state law. The Commonwealth of Virginia received such authorization in 1975 under the terms of a Memorandum of Understanding with the U.S. EPA. This Memorandum of Understanding was modified on May 20, 1991, to authorize the Commonwealth to administer a General VPDES Permit Program.

**Need:** This proposed regulatory action is needed in order to establish appropriate and necessary permitting requirements for discharges of storm water and process wastewater from industrial activities associated with the manufacture of ready-mixed concrete. This general permit is being proposed in order to reduce the regulatory burden on these operations.

**Subject and Intent:** General permits may be issued for categories of dischargers that involve the same or similar types of operations, discharge the same or similar types of wastes, require the same effluent limitations or operating

conditions, and require the same or similar monitoring. The purpose of this proposed regulatory action is to establish standard language for the limitations and monitoring requirements necessary to regulate this category of discharges under the VPDES permit program. This proposed general permit will cover the category of storm water and process wastewater from industrial activities associated with the manufacture of ready-mixed concrete. The intent of this proposed general permit regulation is to establish standard language for the limitations and monitoring requirements necessary to regulate this category of discharges under the VPDES permit program.

**Estimated Impact:** There are approximately 45 establishments currently holding individual VPDES permits in this industrial classification which may qualify for this proposed general permit. There may be other establishments which are currently operating without a permit which would be covered by this general permit. Adoption of this proposed regulation will allow for the streamlining of the permit process as it relates to the covered category of discharges. Coverage under the general permit would reduce the paperwork, time and expense of obtaining a permit for the owners in this category. Additionally, adoption of this proposed regulation would allow the department to redirect staff resources to those discharges which, due to size or complexity, would not appropriately be covered by a general permit.

**Alternatives:** There are two alternatives for compliance with federal and state requirements to permit discharges of storm water and process wastewater from industrial activities associated with the manufacture of ready-mixed concrete. One is to issue individual VPDES permits to each treatment works. Prior to 1991 all of these discharges were permitted in this manner. The other alternative is to adopt and issue a general VPDES permit to cover this category of discharger.

**Public Meeting:** The board intends to hold a public meeting at 2 p.m. on Wednesday, October 18, 1995, in the Board Room, Department of Environmental Quality's offices, Innsbrook Corporate Center, 4900 Cox Road, Glen Allen, to receive views and comments and to answer questions of the public.

**Accessibility to Persons with Disabilities:** The meeting is being held at a public facility believed to be accessible to persons with disabilities. Any person with questions on the accessibility of the facilities should contact Mr. Ayers at the address below or by telephone at (804) 762-4075 or TDD (804) 762-4021. Persons needing interpreter services for the deaf must notify Mr. Ayers no later than Friday, October 6, 1995.

**Ad Hoc Advisory Committee:** The board seeks comment on whether the agency should form an ad hoc advisory group, utilize a standing advisory committee, or consult with groups or individuals to assist in the drafting and formulation of a proposal.

Statutory Authority: § 62.1-44.15(10) of the Code of Virginia.

Public comment may be submitted until 4 p.m. on October 23, 1995.

# Notices of Intended Regulatory Action

**Contact:** Richard Ayers, Water Division, Office of Water Resources Management, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4075.

VA.R. Doc. No. R95-712; Filed August 30, 1995, 9:16 a.m.

## Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the State Water Control Board intends to consider promulgating regulations entitled: **VR 680-14-26. General Virginia Pollutant Discharge Elimination System (VPDES) General Permit Regulation for Fish Farms.** The purpose of the proposed action is to adopt a general permit for the wastewater discharges from fish farms. The agency intends to hold a public hearing on the proposed regulation after publication.

**Basis and Statutory Authority:** The basis for this regulation is § 62.1-44.2 et seq. of the Code of Virginia. Specifically, § 62.1-44.15(5) authorizes the board to issue permits for the discharge of treated sewage, industrial wastes or other waste into or adjacent to state waters and § 62.1-44.15(7) authorizes the board to adopt rules governing the procedures of the board with respect to the issuance of permits. Further, § 62.1-44.15(10) authorizes the board to adopt such regulations as it deems necessary to enforce the general water quality management program; § 62.1-44.15(14) authorizes the board to establish requirements for the treatment of sewage, industrial wastes and other wastes; § 62.1-44.20 provides that agents of the board may have the right of entry to public or private property for the purpose of obtaining information or conducting necessary surveys or investigations; and § 62.1-44.21 authorizes the board to require owners to furnish information necessary to determine the effect of the wastes from a discharge on the quality of state waters.

Section 402 of the Clean Water Act (33 USC 1251 et seq.) authorizes states to administer the NPDES permit program under state law. The Commonwealth of Virginia received such authorization in 1975 under the terms of a Memorandum of Understanding with the U.S. EPA. This Memorandum of Understanding was modified on May 20, 1991, to authorize the Commonwealth to administer a General VPDES Permit Program.

**Need:** This proposed regulatory action is needed in order to establish appropriate and necessary permitting requirements for discharges of wastewater from fish farming operations. Aquaculture, the rearing of fish as an agricultural crop, is a growing industry in Virginia. The typical fish farm consists of either ponds or raceways in which fish are confined and fed until they reach market size. The raceway type operations usually maintain a continuous discharge of water which contains excess food, fish manure and other waste products. The pond type fish farms usually discharge during fish harvest, although some do discharge on a regular basis during the growing period. These discharges are considered to be point sources of pollutants and thus are subject to regulation under the VPDES permit program. This general permit is being proposed in order to reduce the regulatory burden on these agricultural operations.

**Subject and Intent:** General permits may be issued for categories of dischargers that involve the same or similar types of operations, discharge the same or similar types of wastes, require the same effluent limitations or operating conditions, and require the same or similar monitoring. The purpose of this proposed regulatory action is to adopt a general permit for the wastewater discharges from fish farms. The intent of this proposed general permit regulation is to establish standard language for the limitations and monitoring requirements necessary to regulate this category of discharges under the VPDES permit program.

**Estimated Impact:** There are 11 establishments currently holding individual VPDES permits in this industrial classification which may qualify for this proposed general permit. There may be other facilities which are currently operating without a permit which would be covered by this general permit. Adoption of this regulation will allow for the streamlining of the permit process as it relates to the covered category of discharges. Coverage under the general permit would reduce the paper work, time and expense of obtaining a permit for the owners and operators in this category. It is anticipated that the cost and amount of monitoring required under the general permit will be less than under individual permits. Adoption of the proposed regulation would also allow the department to redirect staff resources to those discharges which would, due to size or complexity, not appropriately be covered by a general permit.

**Alternatives:** There are two alternatives for compliance with federal and state requirements to permit discharges of storm water and process wastewater from industrial activities associated with the manufacture of ready-mixed concrete. One is to issue individual VPDES permits to each treatment works. Prior to 1991 all of these discharges were permitted in this manner. The other alternative is to adopt and issue a general VPDES permit to cover this category of discharger.

**Public Meeting:** The board intends to hold a public meeting at 2 p.m. on Wednesday, October 18, 1995, in the Board Room, Department of Environmental Quality's offices, Innsbrook Corporate Center, 4900 Cox Road, Glen Allen, to receive views and comments and to answer questions of the public.

**Accessibility to Persons with Disabilities:** The meeting is being held at a public facility believed to be accessible to persons with disabilities. Any person with questions on the accessibility of the facilities should contact Mr. Ayers at the address below or by telephone at (804) 762-4075 or TDD (804) 762-4021. Persons needing interpreter services for the deaf must notify Mr. Ayers no later than Friday, October 6, 1995.

**Ad Hoc Advisory Committee:** The board seeks comment on whether the agency should form an ad hoc advisory group, utilize a standing advisory committee, or consult with groups or individuals to assist the drafting and formulation of a proposal.

Statutory Authority: § 62.1-44.15(10) of the Code of Virginia.

Public comment may be submitted until 4 p.m. on October 23, 1995.

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# Notices of Intended Regulatory Action

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**Contact:** Richard Ayers, Water Division, Office of Water Resources Management, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4075.

VA.R. Doc. No. R95-713; Filed August 30, 1995, 9:16 a.m.

## Notice of Intended Regulatory Action

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the State Water Control Board intends to consider promulgating regulations entitled: **VR 680-14-27. General Virginia Pollutant Discharge Elimination System (VPDES) General Permit Regulation for Cooling Tower Discharges to Municipal Separate Storm Sewer Systems.** The purpose of the proposed action is to adopt a general permit for discharges from cooling towers to municipal separate storm sewer systems. The agency intends to hold a public hearing on the proposed regulation after publication.

**Basis and Statutory Authority:** The basis for this regulation is § 62.1-44.2 et seq. of the Code of Virginia. Specifically, § 62.1-44.15(5) authorizes the board to issue permits for the discharge of treated sewage, industrial wastes or other waste into or adjacent to state waters and § 62.1-44.15(7) authorizes the board to adopt rules governing the procedures of the board with respect to the issuance of permits. Further, § 62.1-44.15(10) authorizes the board to adopt such regulations as it deems necessary to enforce the general water quality management program; § 62.1-44.15(14) authorizes the board to establish requirements for the treatment of sewage, industrial wastes and other wastes; § 62.1-44.20 provides that agents of the board may have the right of entry to public or private property for the purpose of obtaining information or conducting necessary surveys or investigations; and § 62.1-44.21 authorizes the board to require owners to furnish information necessary to determine the effect of the wastes from a discharge on the quality of state waters.

Section 402 of the Clean Water Act (33 USC 1251 et seq.) authorizes states to administer the NPDES permit program under state law. The Commonwealth of Virginia received such authorization in 1975 under the terms of a Memorandum of Understanding with the U.S. EPA. This Memorandum of Understanding was modified on May 20, 1991, to authorize the Commonwealth to administer a General VPDES Permit Program.

**Need:** This proposed regulatory action is needed in order to establish appropriate and necessary permitting requirements for discharges of wastewater from cooling towers to municipal separate storm sewer systems. Section 402 (p)(3)(B) of the Clean Water Act requires that permits for discharges from municipal separate storm sewer systems "effectively prohibit" non-storm water discharges into the municipal separate storm sewer system. The federal regulations governing storm water discharges require the permit for a municipal separate storm sewer system to contain a program to detect and remove nonstorm water discharges into the municipal separate storm sewer system or require the discharger to the municipal separate storm sewer system to obtain a separate NPDES permit for the nonstorm water discharge. The federal regulation also requires that the owner of the municipal

separate storm sewer system have the legal authority to "prohibit through ordinance, order or similar means, non-storm water discharges to the municipal separate storm sewer." A nonstorm water discharge is defined as "any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to a NPDES permit." Discharges from cooling towers to the municipal separate storm sewer system fall under this definition of non-storm water discharge. This proposed general permit will be required in order for operators of cooling towers to discharge to a municipal separate storm sewer system, once the department issues VPDES permits to the municipalities for the discharges from the municipal separate storm sewer system to state waters.

**Subject and Intent:** General permits may be issued for categories of dischargers that involve the same or similar types of operations, discharge the same or similar types of wastes, require the same effluent limitations or operating conditions, and require the same or similar monitoring. The purpose of this proposed regulatory action is to adopt a general permit for the cooling tower discharges which are contributing to the dry weather flow from municipal separate storm sewer systems. The intent of this proposed general permit regulation is to establish standard language for the limitations and monitoring requirements necessary to regulate this category of discharges under the VPDES permit program.

**Estimated Impact:** There are approximately 3,000 establishments currently discharging from cooling towers to municipal separate storm sewers which may qualify for this proposed general permit. Adoption of this regulation will allow for the streamlining of the permit process as it relates to the covered category of discharges. Coverage under the general permit would reduce the paper work, time and expense of obtaining a permit for the owners and operators in this category. Adoption of the proposed regulations would also allow the department to redirect staff resources to those discharges which, due to size or complexity, would not appropriately be covered by a general permit.

**Alternatives:** For this category of discharges there are three alternatives for compliance with federal and state requirements for discharges from cooling towers to municipal separate storm sewer systems. The first is the issuance of an individual VPDES permit to each establishment. The second is to adopt and issue a general VPDES permit to cover this category of discharger and third is to not permit thus requiring the municipalities to prohibit the discharge.

**Comments:** The department seeks oral and written comments from interested persons on the intended regulatory action and on the costs and benefits of the stated alternatives. Also, the board seeks comment on whether the agency should form an ad hoc advisory group, utilize a standing advisory committee, or consult with groups or individuals to assist in the drafting and formulation of a proposal. To be considered, written comments should be directed to Mr. Richard Ayers, Department of Environmental Quality, P.O. Box 10009, Richmond, Virginia 23240-0009 and must be received by 4:00 p.m. on Monday, October 23, 1995.

**Public Meeting:** The board intends to hold a public meeting at 2 p.m. on Wednesday, October 18, 1995, in the Board

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## Notices of Intended Regulatory Action

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Room, Department of Environmental Quality's offices, Innsbrook Corporate Center, 4900 Cox Road, Glen Allen, to receive views and comments and to answer questions of the public.

**Accessibility to Persons with Disabilities:** The meeting is being held at a public facility believed to be accessible to persons with disabilities. Any person with questions on the accessibility of the facilities should contact Mr. Ayers at the address below or by telephone at (804) 762-4075 or TDD (804) 762-4021. Persons needing interpreter services for the deaf must notify Mr. Ayers no later than Friday, October 6, 1995.

Statutory Authority: § 62.1-44.15(10) of the Code of Virginia.

Public comment may be submitted until 4 p.m. on October 23, 1995.

**Contact:** Richard Ayers, Water Division, Office of Water Resources Management, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4075.

VA.R. Doc. No. R95-708; Filed August 30, 1995, 9:16 a.m.

# PUBLIC COMMENT PERIODS - PROPOSED REGULATIONS



## PUBLIC COMMENT PERIODS REGARDING STATE AGENCY REGULATIONS

Effective July 1, 1995, publication of notices of public comment periods in a newspaper of general circulation in the state capital is no longer required by the Administrative Process Act (§ 9-6.14:1 et seq. of the Code of Virginia). Chapter 717 of the 1995 Acts of Assembly eliminated the newspaper publication requirement from the Administrative Process Act. In *The Virginia Register of Regulations*, the Registrar of Regulations has developed this section entitled "Public Comment Periods - Proposed Regulations" to give notice of public comment periods and public hearings to be held on proposed regulations. The notice will be published once at the same time the proposed regulation is published in the Proposed Regulations section of the *Virginia Register*. The notice will continue to be carried in the Calendar of Events section of the *Virginia Register* until the public comment period and public hearing date have passed.

Notice is given in compliance with § 9-6.14:7.1 of the Code of Virginia that the following public hearings and public comment periods regarding proposed state agency regulations are set to afford the public an opportunity to express their views.

## BOARD OF VETERINARY MEDICINE

**November 15, 1995 - 9 a.m.** -- Public Hearing  
Department of Health Professions, 6606 West Broad Street,  
5th Floor, Richmond, Virginia.

**December 15, 1995** -- Public comments may be submitted  
until this date.

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Board of Veterinary Medicine intends to amend regulations entitled: **VR 645-01-1 [ 18 VAC 150-20-10 et seq. ] Regulations Governing Veterinary Medicine**. The board proposes a one-time, two-year reduction in fees for licensure and renewals and a permanent reduction in the state jurisprudence exam fee.

Statutory Authority: §§ 54.1-113 and 54.1-2400 of the Code of Virginia.

**Contact:** Elizabeth Carter, Executive Director, Board of Veterinary Medicine, 6606 W. Broad St., Richmond, VA 23230, telephone (804) 662-9915.

# PROPOSED REGULATIONS

For information concerning Proposed Regulations, see Information Page.

## Symbol Key

Roman type indicates existing text of regulations. *Italic type* indicates proposed new text.  
Language which has been stricken indicates proposed text for deletion.

## BOARD OF VETERINARY MEDICINE

**Title of Regulation:** ~~VR 645-01-4. 18 VAC 150-20-10 et seq.~~  
**Regulations Governing the Practice of Veterinary Medicine.**

**Statutory Authority:** §§ 54.1-113 and 54.1-2400 of the Code of Virginia.

**Public Hearing Date:** November 15, 1995 - 9 a.m.

Written comments may be submitted until December 15, 1995.

(See Calendar of Events section for additional information)

**Basis:** Chapters 24 (§ 54.1-2400 et seq.) and 38 (§ 54.1-3800 et seq.) of Title 54.1 of the Code of Virginia provide the basis for this regulation.

Chapter 24 establishes the general powers and duties of the health regulatory boards including the power to establish qualifications for licensure, the responsibility to promulgate regulations, and the authority to levy and collect fees for application processing, examination, registration, certification or licensure and renewal.

Chapter 38 establishes the Board of Veterinary Medicine and empowers it to regulate the practice of veterinary medicine.

In addition, § 54.1-113 requires the board to adjust fees at the conclusion of any biennium if the differential between revenues and expenses is greater than 10%.

**Purpose:** The purpose for the amendments to the regulation is to comply with the statutory requirement that boards adjust fees when differences in biennial revenues and expenses are greater than 10% by proposing a one-time, two-year fee reduction in licensure and renewal fees.

**Substance:** Section 1.2 (18 VAC 150-20-20) has been deleted because Public Participation Guidelines are now promulgated in a separate set of regulations entitled VR 645-01-0:1 (18 VAC 150-10-10 et seq.).

Under Part I, General Provisions, 18 VAC 150-20-100 sets fees for licensure, renewal, and administrative functions. Several fees have been reduced for fiscal year 1996/97 and 1997/98 and thereafter established at a level generally at or below current fees to comply with statutory requirement. The examination fee has been permanently reduced to reflect the actual administrative cost of the state jurisprudence examination.

**Issues:** The board is required by § 54.1-113 of the Code of Virginia to reduce fees if the surplus in its funds exceeds 10% at the end of the biennium. Since the current surplus for the board exceeds the allowable percentage, the problem is the development of a proposed fee structure that will result in a sufficient reduction in carryover revenue from previous years without creating a subsequent shortfall in the budget. The

board considered a permanent fee reduction, but it was anticipated that such a proposal would result in a deficit in board funds and would necessitate an increase in fees at a later date.

To respond to the need to reduce fees, a proposed fee structure for the 1996/98 and 1998/00 bienniums was prepared by the Finance Office within the Department of Health Professions, outlining two alternatives:

Proposal #1, which was accepted by the board, would reduce selected fees for fiscal years 1996/97 and 1997/98 and would result in a net surplus of \$61,170, or less than 10% of the projected budget \$1,178,165.

Proposal #2, which was rejected by the board, proposed a smaller reduction for fiscal years 1996/97 and 1997/98 but also a permanent reduction in selected fees. While the anticipated net surplus would be \$67,920 or less than 10% of the projected budget by 1998, it was projected that the permanent reduction would potentially result in a net deficit for the 98/00 biennium.

The advantages and explanation of Proposal #1 as the least burdensome option are:

1. The reduction of the fee for the state jurisprudence examination from \$125 to \$25 will benefit those persons seeking licensure as veterinarians in Virginia. The reduction is proposed because the current fee is unreasonable and excessive. The permanent reduction in the veterinary examination fee more accurately reflects the actual administrative costs associated with the development, administration, scoring of the examination and the reporting of results.

2. The two-year reduction in the veterinary license fee from \$125 to \$25 in 1996/97 and \$60 in 1997/98, in the veterinary technician license fee from \$25 to \$5 and then \$10, and in the animal facility renewal fee from \$50 to \$25 and then \$35 will benefit most those individuals or facilities currently licensed or those becoming licensed within this time period.

3. The permanent reduction in the veterinarian reinstatement fee from \$250 to \$200 more accurately reflects the actual cost of background investigations and other administrative costs.

The disadvantage of Proposal #1 is that the two-year fee reductions benefit only those licensed during that time. However, the permanent reduced fees for veterinarian examination and reinstatement will benefit all new and returning veterinarian licensees.

**Advantage to the Public:** The public may benefit indirectly from reduced fees paid to the board by veterinarians and veterinary technicians. There is no direct cost benefit.

**Disadvantages to the Public:** There are no disadvantages of these proposed regulations.

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# Proposed Regulations

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## Estimated Impact:

A. Projected number of persons affected and their cost of compliance: 3,129 licensed veterinarians and veterinary technicians and 667 veterinary facilities are currently licensed by the board. A small increase in licensees of approximately 5.0% is anticipated during each year. Approximately 3,285 should be affected the first year of fee reductions and 3,450 the second.

It is very difficult to estimate the number of veterinarians who may seek to reinstate licensure. Based on historical averages, an estimated 10 to 15 may choose to request reinstatement.

B. Cost to the agency for implementation: The proposed two-year fee reduction will reduce the surplus of \$649,730 for FY 1996-98 to \$61,170 for the same period, bringing the difference in revenue over expenditures within the 10% required by § 54.1-113. A two-year, one-time reduction was chosen because it is projected that a permanent reduction in fees would result in a deficit by the end of FY 1998-00 and would necessitate promulgation of amended regulations to raise fees.

C. Other approximate costs include: The board will incur approximately \$1,500 for printing and mailing amended regulations to licensees and other interested parties.

D. Cost to local governments: There will be no impact of these regulations on local government.

E. These regulations do not impact disproportionately upon any locality.

## Department of Planning and Budget's Economic Impact Analysis:

A. The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with § 9-6.14:7.1 G of the Administrative Process Act and Executive Order Number Thirteen (94). Section 9-6.14:7.1 G requires that such economic impact analyses include, but need not be limited to, the projected number of businesses or other entities to whom the regulation would apply; the identity of any localities and types of businesses or other entities particularly affected; the projected number of persons and employment positions to be affected; and the projected costs to affected businesses or entities to implement or comply with the regulation. The analysis presented below represents DPB's best estimate of these economic impacts.

B. Summary of the Proposed Regulation: The proposed regulation reduces selected fees paid for the licensure of veterinarians in the Commonwealth of Virginia. The purpose of these fee reductions is to bring the Board of Veterinary Medicine into compliance with § 54.1-113 of the Code of Virginia. Section 54.1-113 requires all regulatory boards under the Department of Health Professions to revise their fee schedules if, after the close of any biennium, there is a more than 10% difference between revenues and expenses.

C. Estimated Economic Impact: The proposed regulation makes the following permanent reductions to fees paid for licensure of veterinarians: examination fees are reduced

from \$125 to \$25 and reinstatement fees are reduced from \$250 currently to \$200.

The proposed regulation also makes the following two-year reductions to fees paid for licensure of veterinarians: renewal fees (active) are reduced from \$125 to \$25 in FY 1996 and \$60 in FY 1997; renewal fees (inactive) are reduced from \$50 currently to \$10 in FY 1996 and \$20 in FY 1997; initial license fees for October exam are reduced from \$65 currently to \$25 in FY 1996 and FY 1997; the technical state board examination fee is reduced from \$25 currently to \$5 in FY 1996 and \$10 in FY 1997; and the animal facility renewal fee is reduced from \$50 currently to \$25 in FY 1996 and \$35 in FY 1997.

Although fee reductions obviously reduce the burden placed on the regulatory community, it is the opinion of DPB that the proposed fee reductions will not have a significant influence on the number of veterinarians applying for licensure in the Commonwealth and, therefore, will have no economic impact. The total cost of licensure for these professionals includes, among other things, the expenses required to obtain a degree in veterinary medicine from a college or university with a program in veterinary medicine approved by the board. Even in their entirety, the licensure fees make up such a small proportion of this total cost that any change in fees is unlikely to have an impact on the decision of individuals seeking licensure and, therefore, are unlikely to have economic consequences.

D. Projected Number of Businesses or Other Entities to Whom the Regulation will Apply: The regulation applies to the 3,129 veterinarians and veterinary technicians, and the 667 veterinary facilities currently licensed by the board, as well as all such individuals and businesses seeking licensure in the Commonwealth.

E. Localities and Types of Businesses Particularly Affected: No localities are particularly affected by this proposed regulation. The proposed regulation does particularly affect all veterinarians, veterinary technicians, and veterinary facilities seeking licensure by the Commonwealth.

F. Projected Number of Persons and Employment Positions Affected: The regulation is not anticipated to have a measurable effect on employment.

G. Projected costs to Affected Businesses or Entities: The proposed regulation will reduce the costs borne by individuals and business facilities seeking licensure by the Commonwealth in the field of veterinary medicine by approximately \$463,650 over the period from FY 1996 to FY 1998.

Agency Response to Economic Impact Analysis: The board concurs with the Economic Impact Analysis prepared by the Department of Planning and Budget.

## Summary:

*The Board of Veterinary Medicine proposes to amend its regulations with a one-time, two-year fee reduction in licensure and renewal fees and a permanent reduction in the fee for veterinarians to take the state board jurisprudence exam. Section 54.1-113 of the Code of Virginia requires health regulatory boards to reduce fees*

when revenues exceed expenditures by 10% at the end of a biennium.

The board also proposes to eliminate Public Participation Guidelines which are now promulgated in a separate set of regulations VR 645-01-0:1 (18 VAC 150-10-10 et seq.).

18 VAC 150-20-10 et seq. Regulations Governing the Practice of Veterinary Medicine.

## CHAPTER 20. REGULATIONS GOVERNING THE PRACTICE OF VETERINARY MEDICINE.

### PART I. GENERAL PROVISIONS.

#### § 4.1. 18 VAC 150-20-10. Definitions.

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

"Animal facility" or "veterinary facility" means any fixed or mobile establishment, veterinary hospital, animal hospital or premises wherein or whereon or out of which veterinary medicine is practiced.

"Automatic emergency lighting" is lighting which is powered by battery, generator, or alternate power source other than electrical power, is activated automatically by electrical power failure, and provides sufficient light to complete surgery or to stabilize the animal until surgery can be continued or the animal moved to another facility.

"Board" means the Virginia Board of Veterinary Medicine.

"Controlled substance" means a drug, substance, or immediate precursor in Schedules I through VI of Article 5, (§ 54.1-3443 et seq.) of Chapter 34, of Title 54.1 of the Code of Virginia, which includes legend drugs that bear the warning "Caution, Federal Law restricts this drug to use by or on the order of a licensed veterinarian."

"Full service facility" means a stationary facility which shall provide surgery and encompass all aspects of health care for small or large animals or both.

"Inactive practitioner" means a veterinarian currently licensed by the board but not engaged in the practice of veterinary medicine in the Commonwealth.

"Large animal ambulatory facility" means a mobile practice in which health care of large animals, including surgery, is performed at the location of the animal.

"Practitioner" means a veterinarian currently licensed by the board.

"Preceptorship" or "clerkship" means a formal arrangement between a college of veterinary medicine approved by the board and a veterinarian licensed by the board, in which a veterinary medical student in his final year, enrolled in such college, obtains practical training in the practice of veterinary medicine under the immediate and direct on-premises supervision of the veterinarian.

"Professional judgment" includes any decision or conduct in the practice of veterinary medicine, as defined by § 54.1-3800 of the Code of Virginia.

"Schools or colleges accredited by the AVMA" means schools accredited by the American Veterinary Medical Association.

"Small animal house call facility" means a mobile practice in which health care of small animals is performed at the residence of the owner of the small animal.

"Small animal outpatient facility" means a stationary facility where health care of small animals is performed and may include surgery under certain conditions. Overnight hospitalization shall not be required.

"Surgery" means any invasive or manipulative procedure that requires anesthesia, sedation, or other restraint.

"Surgical lighting" is lighting which is designed to give off a concentrated light source, not give off harmful heat, is movable over the entire surface of the surgical table, and is shielded to prevent glass shatter.

"Veterinarian in charge" means the licensed veterinarian at each registered animal facility who is responsible for maintaining the facility within the standards for facilities set by the regulations, for complying with federal and state drug laws, and for notifying the board of the facility's closure.

"Veterinary technician" means a licensed animal technician as defined in § 54.1-3806 of the Code of Virginia.

#### ~~§ 1.2. Public participation guidelines. 18 VAC 150-20-20. [Repealed.]~~

~~A. Mailing list. The executive director of the board shall maintain a list of persons and organizations who will be mailed the following documents as they become available:~~

- ~~1. "Notice of intent" to promulgate regulations.~~
- ~~2. "Notice of public hearing" or "informational proceeding," the subject of which is proposed or existing regulations.~~
- ~~3. Final regulations adopted.~~

~~B. Being placed on or deleted from list. Any person wishing to be placed on the mailing list may do so by writing the board. In addition, the board at its discretion, may add to the list any person, organization, or publication it believes will serve the purpose of responsible participation in the formulation or promulgation of regulations. Those on the list may be provided all information stated in subsection A of this section.~~

~~Those on the list may be periodically requested to indicate their desires to continue to receive documents or to be deleted from the list. When mail is returned as undeliverable, or when no timely response is forthcoming, they will be deleted from the list.~~

~~C. Notice of intent. At least 30 days prior to publication of the notice to conduct an informational proceeding as required by § 9-6.14:1 of the Code of Virginia, the board will publish a "notice of intent." This notice will contain a brief and concise statement of the possible regulation or the problem the~~

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~~regulation would address and invite any person to provide written comment on the subject matter. Such notice shall be transmitted to the Registrar of Regulations for inclusion in the Virginia Register of Regulations.~~

~~D. Informational proceedings or public hearings for existing rules. At least once each biennium, the board will conduct an informational proceeding, which may take the form of a public hearing, to receive public comment on existing regulations. The purpose of the proceeding will be to solicit public comment on all existing regulations as to their effectiveness, efficiency, necessity, clarity, and cost of compliance. Notice of such proceeding will be transmitted to the Registrar of Regulations for inclusion in the Virginia Register of Regulations. Such proceeding may be held separately or in conjunction with other informational proceedings.~~

~~E. Petition for rulemaking. Any person may petition the board to adopt, amend, or delete any regulation. Any petition received in a timely manner shall appear on the next agenda of the board. The board shall have sole authority to dispose of the petition.~~

~~F. Notice of formulation and adoption. Prior to any meeting of the board or subcommittee of the board at which the formulation or adoption of regulations is to occur, the subject matter shall be transmitted to the Registrar of Regulations for inclusion in the Virginia Register of Regulations.~~

~~G. Advisory committees. The board may appoint advisory committees as it may deem necessary to provide for adequate citizen participation in the formulation, promulgation, adoption and review of regulations.~~

~~§ 4.3. 18 VAC 150-20-30. Register of practitioners, veterinary technicians and animal facilities.~~

~~A. Register of practitioners and veterinary technicians. The executive director as directed by the board shall record in a book to be kept for such purposes, the names of all practitioners of veterinary medicine and holders of certificates as veterinary technicians to whom licenses or certificates are issued as provided by law. The book shall be styled and recognized as the register of practitioners of veterinary medicine and holders of licenses as veterinary technicians in Virginia and it shall be admissible in evidence as a regularly kept record of the board. Such register shall be available for inspection during business hours in the board office. The board shall insert in the register any alteration in the name of any licensed person as it receives proof satisfactory to the board. A separate record shall be maintained of all addresses.~~

~~B. Register of animal facilities. The executive director of the board shall record in a book to be kept for such purposes the names of all animal facilities. Such book shall list the name and permit number of the animal facility and shall be admissible in evidence as a regularly kept record of the board.~~

~~C. Accuracy of address. It shall be the duty and responsibility of each licensee and holder of a registration permit to operate an animal facility to keep the board apprised at all times of his current address. All notices~~

~~required by law or by these regulations this chapter to be mailed to any veterinarian, veterinary technician, or holder of a permit to operate an animal facility, shall be validly given when mailed to the address furnished to the board pursuant to this regulation. All address changes shall be furnished to the board within 30 days of such change.~~

~~§ 4.4. 18 VAC 150-20-40. Filing date.~~

~~Completed applications for certification and licensure shall be filed with the board office at least 45 days prior to the announced date of the examination.~~

~~§ 4.5. 18 VAC 150-20-50. Records.~~

~~All completed applications and supporting papers submitted to the board with the application become a part of the applicant's examination records and become the property of the board.~~

~~§ 4.6. 18 VAC 150-20-60. Issuance of licenses.~~

~~The board shall issue to each applicant who fulfills the requirements for licensure as a veterinarian or a veterinary technician a license as appropriate. Each license shall be subscribed by the president and secretary of the board and shall have affixed to it the seal of the board.~~

~~§ 4.7. 18 VAC 150-20-70. Renewal requirements.~~

~~A. Every person authorized by the board to practice veterinary medicine shall, before March 1 of every year, pay to the board a renewal fee as prescribed in § 4.10 of these regulations 18 VAC 150-20-100 and every holder of a license of veterinary technology shall, in a like manner, pay a renewal fee as prescribed in § 4.10 18 VAC 150-20-100.~~

~~1. The board shall mail to each licensed person a notice to renew his license prior to the expiration of the license.~~

~~2. It shall be the responsibility of each person so licensed to return the renewal application with the prescribed fee so that it will be received by the board prior to the expiration date of his license. Failure to renew shall cause the license to lapse and become invalid.~~

~~3. A veterinarian's or veterinary technician's license may be renewed up to one year after the expiration date, provided a late fee as prescribed in § 4.10 18 VAC 150-20-100 is paid in addition to the required renewal fee and further provided that the veterinarian or veterinary technician has not intentionally engaged in practice in Virginia after the expiration date of the license.~~

~~4. Reinstatement of licenses expired for one year or more shall be at the discretion of the board. The board shall require documentation of clinical competency and professional activities, and may require examination in addition to the prescribed reinstatement fee and the current renewal fee as conditions for reinstatement of a license.~~

~~B. A new facility shall apply for registration with the board at least 60 days prior to opening for practice and pay to the board a registration fee as prescribed in § 4.10 18 VAC 150-20-100 at the time of application.~~

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1. Every such animal facility so registered shall be required to renew the registration permit annually and pay to the board a registration fee as prescribed in ~~§ 4-10 of these regulations~~ 18 VAC 150-20-100.

2. Failure to renew the facility permit by March 1 of each year shall cause the permit to expire and become invalid. The permit may be reinstated without reinspection, within 60 days of expiration, provided the board receives a properly executed renewal application and a late fee as prescribed in ~~§ 4-10~~ 18 VAC 150-20-100 in addition to the required renewal fee. Reinstatement of an expired permit after 60 days shall be at the discretion of the board and contingent upon a reinspection and payment of the late fee, the reinspection fee, the renewal fee and the facility reinstatement fee.

3. Every new animal facility or an animal facility which changes location shall be inspected, approved and registered by the board prior to opening for the practice of veterinary medicine. Applications are to be made at least 60 days prior to the proposed opening date of the animal facility. If more than one inspection is required for approval, the reinspection fee shall be imposed for each additional inspection.

~~§ 4-8.~~ 18 VAC 150-20-80. Licenses and registrations to be displayed.

A. Veterinarians.

1. Each licensed veterinarian shall publicly post his current Virginia license to practice veterinary medicine in the facility where he practices.

2. Each licensed veterinarian administering, prescribing or dispensing Scheduled II-V drugs shall obtain and maintain on the premises a controlled substances registration certificate from the Virginia Board of Pharmacy as required by § 54.1-3422 of the Code of Virginia.

B. Veterinary technicians. Each licensed veterinary technician shall publicly post his current Virginia license as a veterinary technician at the facility of the employing veterinarian.

C. Animal facilities. Each animal facility shall publicly post the current Virginia registration permit to operate such a facility.

~~§ 4-9.~~ 18 VAC 150-20-90. Reinstatement.

Any person who has had his license or permit suspended or revoked as herein provided may, at any time, apply to the board for relicensure or reregistration. Accordingly, such person may petition the board for a hearing, and the provisions of the Administrative Process Act shall apply.

~~§ 4-10.~~ 18 VAC 150-20-100. Fees.

Fiscal Year:	1995	1996	1997	Thereafter
Veterinary state board examination fee	\$125	25	25	25
Veterinary initial license or renewal fee (active)	125	25	60	125

Initial veterinary license fee for October exam (active)	65	25	25	65
Veterinary license renewal fee (inactive)	50	10	20	50
Veterinary license renewal late fee	25	25	25	25
Veterinarian reinstatement fee	250	200	200	200
Veterinary technician national board examination fee	75	75	75	75
Veterinary technician state board examination fee	25	25	25	25
Veterinary technician initial license or renewal fee	25	5	10	25
Veterinary technician license renewal late fee	25	25	25	25
Veterinary technician reinstatement fee	50	50	50	50
Initial animal facility permit registration fee	100	100	100	100
Animal facility renewal fee	50	25	35	50
Animal facility renewal late fee	25	25	25	25
Animal facility reinstatement fee	100	100	100	100
Animal facility reinspection fee	100	100	100	100
Animal facility--change of location fee	100	100	100	100
Animal facility--change of veterinarian-in-charge fee	20	20	20	20
Duplicate certificate fee	20	20	20	20

## PART II. VETERINARIANS.

~~§ 2-1.~~ 18 VAC 150-20-110. Requirements for licensure as a veterinarian.

A. The applicant, in order to be licensed by the board to practice veterinary medicine, shall:

1. Have received a degree in veterinary medicine from a college or school of veterinary medicine approved by the board; or have fulfilled the requirements of the Educational Commission of Foreign Veterinary Graduates (E.C.F.V.G.) of the American Veterinary Medical Association;

2. File the following documents with the board at least 45 days prior to the announced date of examination:

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- a. A complete and notarized application on a form obtained from the board;
  - b. An official copy, indicating veterinary degree, of the applicant's college or school transcript;
  - c. One passport photograph of reasonable likeness of the applicant taken within six months of the date of the application;
  - d. Certified check, cashier's check, or money order, payable to the Treasurer of Virginia, as prescribed in ~~§ 1-10~~ *18 VAC 150-20-100* for the examination fee and the applicable licensing fee; and
  - e. Certification of good standing by each board from which the applicant holds a license to practice veterinary medicine.
3. Pass the following examinations with a score on each determined acceptable by the board:
- a. The national board examination;
  - b. The national clinical competency test; and
  - c. A written examination administered by the board which shall embrace such subjects as the board shall from time to time prescribe.
4. Have committed no acts which would constitute a violation of § 54.1-3807 of the Code of Virginia.

## B. Reexamination.

1. The national board examination, national clinical competency test scores, and the transcripts required pursuant to this regulation *chapter* shall be acceptable as part of the application for reexamination for a period of two years following the date of the original examination. The board-administered written examination scores shall be acceptable for a period of one year.
2. All requests for reexamination shall be filed with the board at least 45 days prior to the date of examination which the applicant wishes to take. Such requests shall be accompanied by an updated application, one passport photograph of the applicant taken within six months of the date of the application, and a fee in the amount prescribed in ~~§ 1-10~~ *18 VAC 150-20-100*.

## ~~§ 2-2.~~ *18 VAC 150-20-120.* Requirements for licensure by endorsement.

A. The board may, in its discretion, grant a license by endorsement to an applicant who is licensed to practice veterinary medicine in another state, the District of Columbia or possessions or territories of the United States, and who has been continuously engaged in clinical practice for five years or more prior to the date of application provided that:

1. The applicant passes the written examination administered by the board;
2. The applicant has met all of the other requirements of ~~§ 2-4~~ *18 VAC 150-20-110*, provided however that the board may, in its discretion, waive the requirement that the applicant pass the national board exam or the clinical

competency test, or both, if the applicant has been continuously engaged in clinical practice during the immediately preceding five years.

## ~~§ 2-3.~~ *18 VAC 150-20-130.* Requirements for practical training in a preceptorship.

The practical training and employment of qualified students of veterinary medicine by licensed veterinarians shall be governed and controlled as follows:

1. No student shall be qualified to receive practical training by a licensed veterinarian nor shall a licensed veterinarian give practical training to any student unless such student shall be duly enrolled and in good standing in a veterinary college or school, and shall be engaged in a preceptorship as defined by the board and authorized by his college or school.
2. No student receiving practical training from a licensed veterinarian shall at any time discharge or perform any function or act pertaining to the practice of veterinary medicine, except under the immediate and direct on-premises supervision of a veterinarian licensed by the board.

## ~~§ 2-4.~~ *18 VAC 150-20-140.* Unprofessional conduct.

Unprofessional conduct as referenced in § 54.1-3807(5) of the Code of Virginia, shall include the following:

1. Representing conflicting interests except by express consent of all concerned given after a full disclosure of the facts. Acceptance of a fee from both the buyer and the seller is prima facie evidence of a conflict of interest.
2. Practicing veterinary medicine where an unlicensed person has the authority to control the professional judgment of the licensed veterinarian.
3. Issuing a certificate of health unless he shall know of his own knowledge by actual inspection and appropriate tests of the animals that the animals meet the requirements for the issuance of such certificate on the day issued.
4. Violating the confidential relationship between himself and his clients.
5. Advertising in a manner which is false, deceptive, or misleading or which makes subjective claims of superiority.
6. Failing to maintain an animal facility as set forth by ~~these regulations~~ *this chapter*.
7. Practicing veterinary medicine in an animal facility that is not currently registered. This shall not apply to emergency situations.
8. Violating any state law, federal law, or board regulation pertaining to the dispensing or recordkeeping requirement, or both, for controlled substances or pertaining to the practice of veterinary medicine.
9. Dispensing or prescribing controlled substances not in the course of professional practice or when a bonafide veterinarian/client/patient relationship has not been established.

10. Permitting a person other than a licensed veterinarian, licensed veterinary technician, or person otherwise duly certified in x-ray technology to operate diagnostic radiographic equipment.

11. Permitting a person other than a licensed veterinarian or a licensed veterinary technician to induce anesthesia.

12. Practicing veterinary medicine in such a manner as to endanger the health and welfare of his patients or the public; or being unable to practice veterinary medicine with reasonable skill and safety by reason of illness, drunkenness, excessive use of drugs, narcotics, chemicals or any other type of material or as a result of any mental or physical condition.

13. Performing surgery on small animals in an unlicensed facility or a facility not equipped with a surgery suite and adequate recovery area or performing surgery on large animals not in accordance with accepted standards of practice.

14. Failing to pay any required fees.

15. Failing to pay board-imposed fines.

16. Refusing the board or its agent the right to inspect a facility at reasonable hours.

17. Prescribing or dispensing, or both, controlled substances, including anabolic steroids for human use.

18. Allowing a preceptee to diagnose, prescribe, or perform surgery unless under the direct, on-premises supervision of a licensed veterinarian.

19. Practicing veterinary medicine in the Commonwealth while license is on inactive status.

### PART III.

#### LICENSED VETERINARY TECHNICIANS.

§-3.4. 18 VAC 150-20-150. Requirements for licensure as veterinary technician.

A. The applicant, in order to be licensed by the board as a veterinary technician, shall:

1. Have received a degree in veterinary technology from a college or school approved by the American Veterinary Medical Association;
2. File the following documents with the board at least 45 days prior to the announced date of examination:
  - a. A complete and notarized application on a form obtained from the board;
  - b. An official copy, indicating a veterinary technology degree, of the applicant's college or school transcript;
  - c. One passport photograph of reasonable likeness of the applicant taken within six months of the date of the application;
  - d. Certified check, cashier's check, or money order, payable to the Treasurer of Virginia, as prescribed in § 4.10 18 VAC 150-20-100, for the examination fee and the applicable licensure fee; and

e. Certification that the applicant is in good standing by each board from which the applicant holds a license/ certificate/registration to practice animal technology.

3. Pass the following examinations with a score on each determined acceptable by the board:

a. The national board examination for veterinary technicians; and

b. A written examination administered by the board. The board shall administer this examination at least once annually. The board shall determine the subject matters included on this examination.

B. Reexamination.

1. The national board scores and transcript required pursuant to this regulation shall be acceptable as part of the application for reexamination for a period of two years following the date of the original examination. The board-administered written examination shall be acceptable for a period of one year.

2. Any veterinary technician applicant failing to pass either part of the examination shall be reexamined at his request, at the next scheduled examination administered by the board, on the part of the examination failed. If the applicant fails to pass this reexamination, he will be required to pass a subsequent examination in its entirety.

3. All requests for reexamination shall be filed with the board at least 45 days prior to the date of examination which the applicant wishes to take. Such requests shall be accompanied by an updated application, one passport photograph of the applicant taken within six months of the date of this application, and a fee in the amount prescribed in §-4.10 18 VAC 150-20-100.

§-3.2. 18 VAC 150-20-160. Requirements for licensure by endorsement.

A. The board, at its discretion, may also grant a license by endorsement to a technician licensed, certified or registered in another state, the District of Columbia or possessions or territories of the United States based on a written examination administered by the board to an applicant who has not taken the national board examination, provided that:

1. The applicant has met all of the other requirements of §-3.4 18 VAC 150-20-150; and
2. The applicant has been issued a license as a veterinary technician in another state whose requirements are at least equal to those of Virginia.

§-3.3. 18 VAC 150-20-170. Unprofessional conduct.

Unprofessional conduct as referenced in § 54.1-3807(5) of the Code of Virginia, shall include the following:

1. Compromising the confidentiality of the doctor/client relationship.
2. Practicing veterinary technology in an animal facility that is not currently registered. This shall not apply to emergency situations.

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3. Violating any state law, federal law, or board regulation pertaining to the use of controlled substances or any provisions pertaining to the practice of veterinary medicine.

4. Diagnosing, performing surgery, or prescribing drugs.

## PART IV.

### ANIMAL FACILITIES.

§ 4.1. *18 VAC 150-20-180.* Requirements to be registered as an animal facility.

A. Every animal facility must possess an appropriate permit to operate. Veterinary medicine may only be practiced out of a registered facility. Applications must be made to the board 60 days in advance of opening or changing the location or designating a veterinarian in charge of the facility.

B. An animal facility will be registered by the board when:

1. It is inspected by the board and is found to meet the standards set forth by ~~§§ 4.2 and 4.3 of these regulations~~ *18 VAC 150-20-190 and 18 VAC 150-20-200* where applicable. If, during a new or routine facility inspection, violations or deficiencies are found necessitating a reinspection, the prescribed reinspection fee will be levied. Failure to pay the fee shall be deemed unprofessional conduct and, until paid, the facility shall be deemed to be unregistered.

2. A veterinarian currently licensed by and in good standing with the board is registered with the board in writing as veterinarian-in-charge and has paid the facility registration fee.

a. The veterinarian-in-charge is responsible for:

(1) ~~"Maintaining the facility within the standards set forth by §§ 4.2 and 4.3 of these regulations~~ *18 VAC 150-20-190 and 18 VAC 150-20-200;*

(2) Performing the biennial controlled substance inventory and ensuring compliance at the facility with any federal or state law relating to controlled substances as defined in § 54.1-3404 of the Code of Virginia;

(3) Notifying the board in writing of the closure of the permitted facility 10 days prior to closure.

b. Upon any change in veterinarian-in-charge, these procedures shall be followed:

(1) An application for a new permit, naming the new veterinarian-in-charge, shall be made 10 days prior to the change of the veterinarian-in-charge. This application shall be accompanied by a certified check, cashier's check or money order, payable to the Treasurer of Virginia, as prescribed by ~~§ 4.10~~ *18 VAC 150-20-100.*

(2) The previous facility permit is void on the date of the change of veterinarian-in-charge and shall be returned by the former veterinarian-in-charge to the board 10 days following the date of change.

(3) Prior to the opening of the business, on the date of the change of veterinarian-in-charge, the new

veterinarian-in-charge shall take a complete inventory of all Schedule II-V drugs on-hand. He shall date and sign the inventory and maintain it on-premises for two years. Unless the change of the veterinarian-in-charge is in conjunction with a change of ownership, this would not change the official biennial controlled substance inventory date.

~~§ 4.2.~~ *18 VAC 150-20-190.* Requirements for drug storage, dispensing, destruction, and records for all facilities, full service and restricted.

A. All drugs shall be maintained, administered, dispensed, prescribed and destroyed in compliance with state and federal laws.

B. All repackaged tablets and capsules dispensed for companion animals shall be in approved safety closure containers, except safety caps shall not be required when any person who requests that the medication not have a safety cap, or in such cases in which the medication is of such form or size that it cannot be reasonably dispensed in such containers (e.g., topical medications, ophthalmic, or otic).

C. All drugs dispensed for companion animals shall be labeled with the following:

1. Name and address of the facility;
2. Name of client;
3. Animal identification;
4. Date dispensed;
5. Directions for use;
6. Name, strength (if more than one dosage form exists), and quantity of the drug; and
7. Name of the prescribing veterinarian.

D. All drugs shall be maintained in a secured manner with precaution taken to prevent diversion.

1. All Schedule II drugs shall be maintained under lock at all times, with access to the veterinarian only, provided, however, that a working stock of Schedule II drugs under separate lock may be accessible to the licensed veterinary technician.

2. Whenever a veterinarian discovers a theft or any unusual loss of Schedule II, III, IV, or V drugs, he shall immediately report such theft or loss to the Board of Veterinary Medicine, to the Virginia Board of Pharmacy and to the U.S. Drug Enforcement Administration.

E. Schedule II, III, IV and V drugs may be destroyed by an investigator of the Virginia Department of Health Professions, the U.S. Drug Enforcement Administration or, if a veterinarian-in-charge wishes to destroy unwanted Schedule II through V drugs kept for dispensing in lieu of any disposal method provided by regulations promulgated by the U.S. Drug Enforcement Administration, he shall use the following procedures:

1. At least 14 days prior to the destruction date, the veterinarian-in-charge shall provide a written notice to

the Board of Veterinary Medicine. The notice shall state the following:

- a. Date, time, manner and place of destruction;
  - b. The names of the veterinarians who will witness the destruction process.
2. If the destruction date is changed or the destruction does not occur, a new notice shall be provided to the board as set forth in § 4.2 E-1 above subdivision 1 of this subsection;
3. Drug Destruction Form No. 41 from the U.S. Drug Enforcement Administration shall be used to record all drugs destroyed;
4. The drugs shall be destroyed by burning in an incinerator or flushing if permitted by the municipality; and
5. The actual destruction shall be witnessed by the veterinarian-in-charge and by another veterinarian neither associated with nor employed by the veterinarian-in-charge.
6. Each destruction form shall show the following information:
- a. Legible signatures of the veterinarian-in-charge and the other veterinarian witnessing the destruction;
  - b. The Board of Veterinary Medicine license numbers of the veterinarian-in-charge and the other witnessing veterinarian;
  - c. The date of the destruction;
  - d. Name and quantity of the drugs destroyed; and
  - e. Manner of destruction.
7. At the conclusion of the destruction of the drug stock, copies of the completed Drug Destruction Form No. 41 shall be distributed as follows:
- a. The original and one copy shall be sent to the U.S. Drug Enforcement Administration at one of the following addresses:
    - (1) Facilities with zip codes beginning with the numbers 230 through 249 inclusive should mail their forms to the U.S. Drug Enforcement Administration, 8600 Staples Mill Road, Suite B, Richmond, Virginia 23228;
    - (2) Facilities with zip codes beginning with any numbers other than those listed above should mail their forms to the U.S. Drug Enforcement Administration, Washington Field Division, 400 Sixth Street SW, Room 2558, Washington, DC 20024.
  - b. One copy shall be sent to the Board of Veterinary Medicine; and
  - c. One copy shall be retained with the animal facility's records of Schedule II-V drugs.

F. The drug storage area shall have appropriate provision for temperature control for all drugs and biologics. The stock

of drugs shall be reviewed frequently and removed from the working stock of drugs at the expiration date.

G. A distribution record shall be maintained in addition to the patient's record, in chronological order, for the administration and dispensing of all Schedule II-V drugs.

This record is to be maintained for a period of two years from the date of transaction. This record shall include the following:

1. Date of transaction;
2. Drug name, strength, and the amount dispensed, administered and wasted;
3. Client and animal identification; and
4. Identification of the veterinarian authorizing the administration or dispensing of the drug.

H. Invoices for all Schedule II, III, IV and V drugs received shall be maintained in chronological order on the premises where the stock of drugs is held. Invoices for Schedule II drugs shall be maintained separately from other records. All drug records shall be maintained for a period of two years from the date of transaction.

I. A complete and accurate inventory of all Schedule II, III, IV and V drugs shall be taken, dated, and signed on the same day every two years. Drug strength must be specified. This inventory shall indicate if it was made at the opening or closing of business and shall be maintained on the premises where the drugs are held for two years from the date of taking the inventory.

§ 4.3. 18 VAC 150-20-200. Standards for facilities.

A. Full-service facilities. A full-service facility is a stationary facility which shall provide surgery and encompass all aspects of health care for small or large animals or both. All full-service facilities shall meet the requirements set forth below:

1. Buildings and grounds must be maintained to provide sanitary facilities for the care and medical well being of patients.
  - a. Temperature. The facility shall be equipped so as to maintain temperatures between 59°F and 86°F consistent with the medical well-being of the patients.
  - b. Ventilation. The facility shall be equipped with the capacity to ventilate consistent with the medical well-being of the animals.
  - c. Lighting. The facility shall be equipped with lighting commensurate with the procedures performed.
  - d. Water and waste. There shall be on-premises:
    - (1) Hot and cold running water of drinking quality, as defined by the Virginia Department of Health;
    - (2) Sanitary toilet and lavatory for the personnel and for the clients;
    - (3) An acceptable method of disposal of deceased animals; and

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(4) Refrigeration exclusively for carcasses of companion animals that require storage for 24 hours or more.

2. Areas within building. The areas within the facility shall include the following:

a. A reception area separate from other designated rooms;

b. Examination room(s);

c. Surgery. Surgery shall be performed in a room which is reserved only for surgery and used for no other purpose. Surgery shall not serve as a corridor. In order that surgery can be performed in a manner compatible with current veterinary medical practice with regard to anesthesia, asepsis, life support, and monitoring procedures, the surgery room shall:

(1) Be of a size adequate to accommodate a surgical table, anesthesia support equipment, surgical supplies, the veterinarian, an assistant, and the patient; and

(2) Be kept so that storage in the surgery room shall be limited to items and equipment normally related to surgery and surgical procedures.

d. Laboratory. The animal facility shall have, as a minimum, proof of use of either in-house laboratory service or consultant laboratory services for performing the following lab tests, consistent with appropriate professional care for the species treated:

(1) Urinalysis, including microscopic examination of sediment;

(2) Complete blood count, including differential;

(3) Flotation test for ova of internal parasites;

(4) Skin scrapings for diagnosing external parasites;

(5) Examinations for circulating blood microfilaria;

(6) Blood chemistries;

(7) Cultures and sensitivities;

(8) Biopsy;

(9) Complete necropses, including histopathology; and

(10) Serology.

e. Animal housing areas. These shall be provided with:

(1) Separate compartments constructed in such a way as to

prevent residential contamination;

(2) Accommodations allowing for the effective separation of contagious and noncontagious patients; and

(3) Exercise runs which provide and allow effective separation of animals or walking the animals at medically appropriate intervals.

3. Radiology. An animal facility shall:

a. Have proof of use of either in-house or consultant services for obtaining diagnostic-quality radiographs.

b. If radiology is in-house:

(1) Each radiograph shall be permanently imprinted with the identity of the facility or veterinarian, patient and the date of exposure. Each radiograph shall also distinguish left from right, when appropriate by permanent imprinting.

(2) Document that radiographic equipment complies with all requirements of ~~§ 7-10~~ 12 VAC 5-480-8520, Veterinary Medicine Radiographic Installations, of the Virginia Department of Health document, "Ionizing Radiation Rules and Regulations" (1988), which requirements are adopted by this board and incorporated herewith by reference in these regulations *this chapter*.

c. Maintain radiographs with and as a part of the patient's record. If a radiograph is transferred to another facility, a record of this transfer must be maintained on or with the patient's records.

4. Equipment; minimum requirements.

a. Examination room.

(1) Table with nonporous surface;

(2) Waste receptacle; and

(3) Sanitizing solution.

b. Surgery suite.

(1) Surgical table with nonporous surface;

(2) Surgical supplies, instruments and equipment commensurate with the kind of surgical services provided;

(3) All new small animal facilities that perform surgeries and all existing facilities that change their veterinarian-in-charge will be required to have a circle gas anesthesia machine.

(4) Automatic emergency lighting;

(5) Surgical lighting;

(6) Instrument table, stand, or tray; and

(7) Waste receptacle.

c. Radiology (if in-house).

(1) Lead aprons;

(2) Lead gloves;

(3) Radiation exposure badges;

(4) X-ray machine.

d. Drug storage area.

(1) Refrigerator, with interior thermometer maintained between 36°F and 46°F;

- (2) Locked storage for Schedule II drugs;
- (3) Drugs stored at room temperature shall be maintained between 59°F and 86°F.

e. General equipment.

- (1) Steam pressure sterilizer;
- (2) Internal and external sterilization monitors;
- (3) Stethoscope;
- (4) Thermometer;
- (5) Ophthalmoscope;
- (6) Otoscope;
- (7) Equipment for delivery of assisted ventilation, including but not necessarily limited to:
  - (a) A resuscitation bag; and
  - (b) Endotracheal tubes.
- (8) Scales; and
- (9) Storage for records.

5. Recordkeeping. Every veterinarian shall keep a written daily record of the animals he treats. This record shall include pertinent medical data such as drugs administered, dispensed or prescribed, and all relevant medical and surgical procedures performed.

- a. Client records shall be kept for a period of three years following the last office visit or discharge of such animal from a veterinary facility.
- b. Individual records shall be maintained on each patient, except that records for economic animals may be maintained on a per client basis.
- c. An animal identification system must be used by the facility.

6. Disclosure of staffing hours. Every animal facility shall conspicuously post a sign which indicates the hours that the facility is staffed.

B. Restricted facilities. When the scope of practice is less than full service, a specifically restricted facility permit shall be required. Upon satisfactory inspection and payment of the permit fee, a restricted facility permit will be issued. Such restricted facilities shall have posted in a conspicuous manner the specific limitations on the scope of practice on a form acceptable to the board.

1. Large animal facility, ambulatory practice. A large animal ambulatory facility is a mobile practice in which health care of large animals is performed at the location of the animal. Surgery on large animals may be performed as part of a large animal ambulatory practice. All large animal ambulatory facilities shall meet the requirements set forth below:

- a. Laboratory. At a minimum, proof of use of either in-house laboratory service or consultant laboratory services for performing the following lab tests,

consistent with appropriate professional care for the species treated:

- (1) Urinalysis, including microscopic examination of sediment;
- (2) Complete blood count, including differential;
- (3) Flotation test for ova of internal parasites;
- (4) Skin scrapings for diagnosing external parasites;
- (5) Blood chemistries;
- (6) Cultures and sensitivities;
- (7) Biopsy;
- (8) Complete necropses, including histopathology; and
- (9) Serology.

b. Radiology. A large animal ambulatory facility shall have the following:

- (1) Proof of use of either in-house or consultant services for obtaining diagnostic-quality radiographs.
- (2) If radiology is in-house.

- (a) Each radiograph shall be permanently imprinted with the identity of the facility or veterinarian, the patient and the date of exposure. Each radiograph shall also distinguish left from right, when appropriate, by permanent imprinting.

- (b) Document that radiographic equipment complies with all requirements of §-7.19, 12 VAC 5-480-8520, Veterinary Medicine Radiographic Installations of the Virginia Department of Health document, "Ionizing Radiation Rules and Regulations" (1988), which requirements are adopted by this board and incorporated herewith by reference in these regulations *this chapter*.

- (3) Maintain radiographs with and as a part of the patient's record. If the radiograph is transferred to another facility, documentation of this transfer shall be maintained on or with the client's record.

c. Equipment; minimum requirements.

- (1) Surgical supplies, instruments and equipment commensurate with the kind of surgical services provided;

- (2) Radiology (if in-house):

- (a) Lead aprons;
  - (b) Lead gloves;
  - (c) Radiation exposure badges;
  - (d) X-ray machine.

- (3) Drug storage area.

- (a) Refrigerator, with interior thermometer maintained between 36°F and 46°F;

- (b) Locked storage for Schedule II drugs;

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## Proposed Regulations

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(c) Drugs stored at room temperature should be maintained between 59°F and 86°F.

(4) General equipment.

- (a) Steam pressure sterilizer;
- (b) Internal and external sterilization monitors;
- (c) Stethoscope;
- (d) Ophthalmoscope;
- (e) Thermometer;
- (f) Storage for records.

d. Recordkeeping. The veterinarian shall keep a written record of treatment to include pertinent medical data.

- (1) Individual records shall be maintained on each patient except that records for economic animals and equine may be maintained on a per client basis; and
- (2) Client records shall be kept for a period of three years from the date of the last visit.

2. Small animal facility house call practice. A small animal house call facility is a mobile practice in which health care of small animals is performed at the residence of the owner of the small animal. Surgery may be performed only in a permitted, surgical facility. Small animal house call facilities shall meet the requirements set forth below:

a. Laboratory. At a minimum, proof of use of either in-house laboratory service or consultant laboratory services for performing the following lab tests, consistent with appropriate professional care for the species treated:

- (1) Urinalysis, including microscopic examination of sediment;
- (2) Complete blood count, including differential;
- (3) Flotation test for ova of internal parasites;
- (4) Skin scrapings for diagnosing external parasites;
- (5) Examinations for circulating blood microfilaria;
- (6) Blood chemistries;
- (7) Cultures and sensitivities;
- (8) Biopsy;
- (9) Complete necropses, including histopathology; and
- (10) Serology.

b. Radiology. A small animal house call facility shall:

- (1) Have proof of services for obtaining diagnostic-quality radiographs.
- (2) Maintain radiographs with and as a part of the patient's record. If a radiograph is transferred to another facility, documentation of the transfer must be maintained on or with the patient's record.

c. Equipment, minimum requirements.

(1) Drug storage area.

- (a) Refrigerator, with interior thermometer maintained between 36°F and 46°F;
- (b) Locked storage for Schedule II drugs;
- (c) Drugs stored at room temperature should be maintained between 59°F and 86°F.

(2) General equipment.

- (a) Stethoscope;
- (b) Thermometer;
- (c) Ophthalmoscope;
- (d) Otoscope;
- (e) Resuscitation bag and endotracheal tubes;
- (f) Storage for records.

d. Recordkeeping. Every veterinarian shall keep a written daily record of the animals he treats. This record shall include pertinent medical data such as drugs administered, dispensed or prescribed, and all relevant medical and surgical procedures performed.

- (1) Client records shall be kept for a period of three years following the last visit.
- (2) Individual records shall be maintained on each patient, except that records for economic animals may be maintained on a per-client basis.

3. Small animal facility, outpatient practice. A small animal outpatient facility is a stationary facility where health care of small animals is performed. This practice may include surgery, provided the facility is equipped with a surgery suite *as required by subdivision A 2 b of this section* and an adequate recovery area as required by ~~§ 4.3 A 2 c~~ *subdivision A 2 c of this section*. Overnight hospitalization shall not be required.

a. Buildings and grounds must be maintained to provide sanitary facilities for the care and medical well-being of patients.

- (1) Temperature. The facility shall be equipped so as to maintain temperatures between 59°F and 86°F consistent with the medical well-being of the patients.
- (2) Ventilation. The facility shall be equipped with the capacity to ventilate consistent with the medical well-being of the animals.
- (3) Lighting. The facility shall be equipped with lighting commensurate with the procedures performed.

(4) Water and waste. There shall be on-premises:

- (a) Hot and cold running water of drinking quality, as defined by the Virginia Department of Health;
- (b) Sanitary toilet and lavatory for the personnel and for the clients;

- (c) An acceptable method of disposal of deceased animals; and
- (d) Refrigeration exclusively for carcasses of companion animals that require storage for 24 hours or more.
- b. Areas within building. The areas within the facility shall include the following:
- (1) A reception area separate from other designated rooms;
  - (2) Examination room(s).
- c. Laboratory. At a minimum, proof of use of either in-house laboratory service or consultant laboratory services for performing the following lab tests, consistent with appropriate professional care for the species treated:
- (1) Urinalysis, including microscopic examination of sediment;
  - (2) Complete blood count, including differential;
  - (3) Flotation test for ova of internal parasites;
  - (4) Skin scrapings for diagnosing external parasites;
  - (5) Examinations for circulating blood microfilaria;
  - (6) Blood chemistries;
  - (7) Cultures and sensitivities;
  - (8) Biopsy;
  - (9) Complete necropses, including histopathology; and
  - (10) Serology.
- d. Radiology. A small animal outpatient facility shall have the following:
- (1) Proof of use of either in-house or consultant services for obtaining diagnostic-quality radiographs.
  - (2) If radiology is in-house:
    - (a) Each radiograph shall be permanently imprinted with the identity of the facility or veterinarian, the patient and the date of exposure. Each radiograph shall also distinguish left from right, when appropriate, by permanent imprinting.
    - (b) Document that radiographic equipment complies with all requirements of ~~§ 7-40~~ 12 VAC 5-480-8520, Veterinary Medicine Radiographic Installations of the Virginia Department of Health document, "Ionizing Radiation Rules and Regulations" (1988), which requirements are adopted by this board and incorporated herewith by reference in these regulations *this chapter*.
    - (c) Maintain radiographs with and as a part of the patient's record. If a radiograph is transferred to another facility, documentation of the transfer must be maintained on or with the patient's record.
- e. Equipment, minimum requirements.
- (1) Examination room.
    - (a) Table with nonporous surface;
    - (b) Waste receptacle; and
    - (c) Sanitizing solution.
  - (2) Radiology (if in-house).
    - (a) Lead aprons;
    - (b) Lead gloves;
    - (c) Radiation exposure badges;
    - (d) X-ray machine.
  - (3) Drug storage area.
    - (a) Refrigerator, with interior thermometer maintained between 36°F and 46°F;
    - (b) Locked storage for Schedule II drugs; and
    - (c) Drugs stored at room temperature should be maintained between 59°F and 86°F.
  - (4) General equipment.
    - (a) Steam pressure sterilizer;
    - (b) Internal and external sterilization monitors;
    - (c) Stethoscope;
    - (d) Thermometer;
    - (e) Ophthalmoscope;
    - (f) Otoscope;
    - (g) Resuscitation bag and endotracheal tubes;
    - (h) Scales;
    - (i) Storage for records.
- f. Recordkeeping. Every veterinarian shall keep a written daily record of the animals he treats. This record shall include pertinent medical data such as drugs administered, dispensed or prescribed, and all relevant medical and surgical procedures performed.
- (1) Client records shall be kept for a period of three years following the last office visit or discharge of such animal from a veterinary facility.
  - (2) Individual records shall be maintained on each patient, except that records for economic animals may be maintained on a per client basis.
  - (3) An animal identification system must be used by the facility if animals are kept for the day.
4. Special-use permit. If a practice does not conform to one of the above-listed types of facilities, a veterinarian may apply for a special-use permit. A protocol, detailing the type of practice, must be submitted to the board with the application. The board will review the protocol and approve or deny the application on a case-by-case basis. If the board approves the application, limitations of

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## Proposed Regulations

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practice and standards specific for the approved practice will be set.

5. Disclosure of staffing hours. Every animal facility shall conspicuously post a sign which indicates the hours that the facility is staffed.

The protocol must be resubmitted annually with the renewal application for board review and approval.

C. Combination practices. A combination practice may exist under a single facility permit. The practice may encompass two or more types of facilities as defined in subsections A and B of § 4.3 *this section*. The application for the permit must specify the types of facilities to be included within the combination practice. The types of facilities included must also be posted with the facility permit.

All standards listed under each type of facility included in the combination practice must be met.

~~§ 4.4. 18 VAC 150-20-210.~~ Revocation or suspension of registration certificate.

A. The board may revoke or suspend the registration permit of an animal facility or may declare it as not meeting the standards set forth in ~~§§ 4.2 and 4.3 of these regulations~~ 18 VAC 150-20-190 and 18 VAC 150-20-200 if:

1. The board finds the facility to be in violation of ~~§ 4.7 "Renewal requirements"~~ 18 VAC 150-20-70;
2. The board finds the facility to be in violation of ~~§§ 4.2 or 4.3 of these regulations~~ 18 VAC 150-20-190 or 18 VAC 150-20-200;
3. The board or its agents are denied access to the facility to conduct an inspection;
4. The licensee does not pay any and all prescribed fees;
5. Performing procedures beyond the scope of a restricted facility permit; or
6. The facility has no veterinarian-in-charge registered at the facility.

B. The Administrative Process Act, Chapter 1.1:1 (9-6.14:1 et seq.) of Title 9 of the Code of Virginia, shall apply to any determination under § 4.4 *this section*.

Documents Incorporated by Reference

Section 7.10 [12 VAC 5-480-8520] of VR 355-20-1 [12 VAC 5-480-10 et seq.], Ionizing Radiation Rules and Regulations, 1988, Department of Health.



<p style="text-align: center;"><b>SECURELY ATTACH A                  PASSPORT-TYPE                  PHOTOGRAPH IN                  THIS SPACE</b></p> <p style="text-align: center;"><b>PHOTOGRAPH CANNOT                  BE ANY LARGER THAN                  THE SPACE PROVIDED</b></p>	<p><b>APPLICATION FOR A LICENSE TO PRACTICE                  VETERINARY MEDICINE</b></p>
<p><b>IMPORTANT: THIS SECTION MUST BE COMPLETED.</b></p>	
<p style="text-align: center;"><b>CLINICAL COMPETENCY TEST</b></p> Jurisdiction _____ Date Taken _____	<p style="text-align: center;"><b>NATIONAL BOARD EXAMINATION</b></p> Jurisdiction _____ Date Taken _____
Please request that the Interstate Reporting Service send your scores directly to the Virginia Board Office. <small>*Must meet requirements of §2.2 of the regulations.</small>	
Request Waiver of NBE* <input type="checkbox"/> Request Waiver of CCT* <input type="checkbox"/>	

Answer each question fully, truthfully, and accurately. If the space for any answer is insufficient, complete your answer on a separate sheet, specify the question number to which it relates, sign, and enclose with this application. Do not staple enclosures to this application blank. (See Instruction Sheet.)

I hereby make application for a license to practice veterinary medicine in the Commonwealth of Virginia in accordance with and subject to the regulations of the Board of Veterinary Medicine and the laws governing the practice of veterinary medicine in Virginia.

1. NAME IN FULL (Print or Type)

Last	First	Middle/Maiden
Address (Present) - Street		
City	State	Zip Code
Address (Permanent) - Street		
City	State	Zip Code
Date of Birth Mo Day Yr	Social Security Number	Area Code and Telephone Number
Graduation Date Mo Day Yr	Professional School Degree	School, City, State

APPLICANTS DO NOT USE THESE SPACES - FOR OFFICE USE ONLY.		
CLASS	TESTING NUMBER	FEE
NATIONAL BOARDS	C.C.T.	STATE BOARDS

# Proposed Regulations

Have you ever been known by any other name?  Yes  No. If so, state in full every other name by which you have been known.

If change was made by court order, enclose a copy of order \_\_\_\_\_

If a married woman, give maiden name: \_\_\_\_\_

Present telephone number ( ) \_\_\_\_\_ Permanent telephone number ( ) \_\_\_\_\_

2. Name of two persons who will always know your address:

(Name) \_\_\_\_\_ (Name) \_\_\_\_\_

(Street) \_\_\_\_\_ (Street) \_\_\_\_\_

(City, State, Zip) \_\_\_\_\_ (City, State, Zip) \_\_\_\_\_

3. Professional Experience. (Provide information about your entire veterinary career. List your most recent experience first.)

Inclusive Dates		Name and Address of Business	Type of Activity	Status of Applicant (Employee, Partner, Owner)
Began (M/Y)	Ended (M/Y)			

4. (Response to this question is optional) - Membership in societies or associations: (Professional, Scientific or Technical)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## PRE-VETERINARY COLLEGE ATTENDED

5. Name and location of institutions attended:

Period of Attendance  
(From: Month/Year to Month/Year)

(Name) \_\_\_\_\_ (City, State) \_\_\_\_\_

(Name) \_\_\_\_\_ (City, State) \_\_\_\_\_

(Name) \_\_\_\_\_ (City, State) \_\_\_\_\_

Received the degree of \_\_\_\_\_ from \_\_\_\_\_  
(College or University)

on the \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_

**VETERINARY EDUCATION**

6. List in chronological order the veterinary school you attended.

Period of Attendance (From: Month/Year to Month/Year)	Name of Veterinary School	Degree
_____	_____	_____
_____	_____	_____

Please have your veterinary school send an official transcript to the Board office. In the event you have not graduated, your school must send a current transcript and arrangements must be made for a final transcript to be sent to the Board of Veterinary Medicine when you graduate.

7. I am or have been licensed to practice veterinary medicine in the following jurisdictions:

Jurisdictions	How Licensed	License Number	Date of Issuance	Years of Practice

Please have each of the above jurisdictions send directly to the Virginia Board a certification that your license is or was in good standing. You will not be licensed until these are received.

8. Have you ever been denied the privilege of taking, or ever failed, the veterinary examination given by another board? If yes, please explain: \_\_\_\_\_  Yes  No

9. Have any charges or complaints relating to the practice of veterinary medicine, formal or informal, ever been made or filed against you, or have any proceedings been instituted against you? If the answer is yes, for each occurrence furnish a written statement giving the dates, the nature of the charge, the disposition of the matter, and the name and address of the authority in possession of the records thereof.  Yes  No

10. Have you, within the last two years, been treated by, consulted with or been under the care of a professional for substance abuse?  Yes  No

11. Have you ever been reprimanded, had your license suspended, cancelled or revoked by any board?  Yes  No

12. Do you have a mental or physical condition which could affect your performance of professional duties? If yes, please provide a detailed explanation and a letter from the treating professional.  Yes  No

13. Have you ever been convicted of, or pled Nolo Contendere, to any federal, state or local statute, regulation or ordinance, or entered into any plea bargaining relating to a felony or misdemeanor, (excluding traffic violations except convictions for driving under the influence)?  Yes  No

# Proposed Regulations

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14. In addition to the foregoing, I add the following:

- (a) I have read the Virginia Board of Veterinary Medicine statutes and regulations and am aware that if granted a license to practice veterinary medicine in Virginia, I am required to comply with any laws and regulations governing the practice of veterinary medicine and the use of controlled substances in Virginia.
- (b) I hereby give permission to the Virginia Board of Veterinary Medicine to obtain additional information relating to any statement in this application from any person or any source as the Board may desire.
- (c) I shall present any credentials required or requested by the Board.
- (d) I have attached a money order or check in the amount of \$ \_\_\_\_\_, made payable to the Treasurer of Virginia.
- (e) I hereby certify that in applying to the Virginia Board of Veterinary Medicine for a license to practice veterinary medicine in Virginia, I have made no fraudulent or deceitful statements, no omissions, nor have I misrepresented any material fact.

I have carefully read the statements and questions in the foregoing application and have answered them completely without reservations of any kind, and I declare under penalty of perjury that my answers and all statements made by me herein are true and correct. Should I furnish any false information in this application, I hereby agree that such act shall constitute cause for the denial, suspension or revocation of my license to practice veterinary medicine and surgery in the Commonwealth of Virginia.

\_\_\_\_\_  
Applicant's Signature

The City/County of \_\_\_\_\_ State of \_\_\_\_\_

Before me, the undersigned authority, on this day personally appeared \_\_\_\_\_ who after being duly sworn by me on his or her oath that all facts, statements, and answers contained in this application are true and correct in every respect, and that the attached photograph is a true likeness of the applicant.

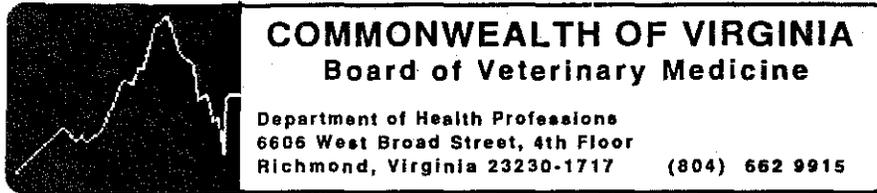
\_\_\_\_\_  
Applicant's Signature - Signed in presence of Notary

Sworn and subscribed to before me this \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_, to certify which witness my hand and official seal of office.

My Commission expires: \_\_\_\_\_

\_\_\_\_\_  
Notary

(SEAL)



**Instructions to Applicants**

Fill in your name, name of licensing board and send one copy of this form to each board by which you are, or have been, licensed to practice veterinary medicine.

TO: \_\_\_\_\_  
 State and Name of Board

FROM: VIRGINIA BOARD OF VETERINARY MEDICINE

\_\_\_\_\_ has applied for licensure or the reinstatement of their veterinary license in Virginia. We would appreciate it if you would complete the following information regarding this applicant:

1. License number \_\_\_\_\_ Date Issued: \_\_\_\_\_
2. Basis for Licensure: \_\_\_\_\_ National Board Examination  
 \_\_\_\_\_ State Board Examination  
 \_\_\_\_\_ Clinical Competency Test  
 \_\_\_\_\_ Other
3. Has this license or certificate ever been suspended, revoked, or disciplined in any way? Yes \_\_\_\_\_ No \_\_\_\_\_. If yes, please provide details.
4. Do you have any derogatory information concerning this applicant?  
 Yes \_\_\_\_\_ No \_\_\_\_\_.
5. Is this applicant currently licensed by your board?  
 Yes \_\_\_\_\_ No \_\_\_\_\_.
6. Would your board recommend this applicant for licensure in Virginia?  
 Yes \_\_\_\_\_ No \_\_\_\_\_.



\_\_\_\_\_  
 Signature of Authorized Person

\_\_\_\_\_  
 Title

\_\_\_\_\_  
 Date



<p style="text-align: center;"><b>SECURELY ATTACH A PASSPORT-TYPE PHOTOGRAPH IN THIS SPACE</b></p> <p style="text-align: center;"><b>PHOTOGRAPH CANNOT BE ANY LARGER THAN THE SPACE PROVIDED</b></p>	<p><b>APPLICATION FOR A LICENSE TO PRACTICE VETERINARY TECHNOLOGY</b></p>
<p><b>IMPORTANT: THIS SECTION MUST BE COMPLETED.</b></p>	
<p><b>NATIONAL BOARD EXAMINATION (If already taken)</b></p>	
<p>Please request that the Interstate Reporting Service send your scores directly to the Virginia Board office.</p>	<p>Jurisdiction _____                  Date Taken _____</p> <p style="text-align: right;">Request Waiver of NBE* <input type="checkbox"/></p> <p style="font-size: small; text-align: right;">* Must meet requirements of §3.2 of the regulations.</p>

Answer each question fully, truthfully, and accurately. If the space for any answer is insufficient, complete your answer on a separate sheet, specify the question number to which it relates, sign, and enclose with this application. Do not staple enclosures to this application blank.

I hereby make application for a license to practice veterinary technology in the Commonwealth of Virginia in accordance with and subject to the regulations of the Board of Veterinary Medicine and the laws governing the practice of veterinary technology in Virginia.

1. NAME IN FULL (Print or Type)

Last	First	Middle/Maiden
Address (Present) - Street		
City	State	Zip Code
Address (Permanent) - Street		
City	State	Zip Code
Date of Birth	Social Security Number	Area Code and Telephone Number
Mo Day Yr		
Graduation Date	Professional School Degree	School, City, State
Mo Day Yr		

APPLICANTS DO NOT USE THESE SPACES - FOR OFFICE USE ONLY.		
CLASS	TESTING NUMBER	FEE
NATIONAL BOARDS	STATE BOARDS	

# Proposed Regulations

Have you ever been known by any other name?  Yes  No. If so, state in full every other name by which you have been known, the reason therefore, and inclusive dates so shown. If change was made by court order, enclose a copy of such order. \_\_\_\_\_

If a married woman, give maiden name: \_\_\_\_\_

Present telephone number ( ) \_\_\_\_\_ Permanent telephone number ( ) \_\_\_\_\_

2. Name of two persons who will always know your address:

(Name) \_\_\_\_\_ (Name) \_\_\_\_\_

(Street) \_\_\_\_\_ (Street) \_\_\_\_\_

(City, State, Zip) \_\_\_\_\_ (City, State, Zip) \_\_\_\_\_

3. Professional Experience. Please provide information about your veterinary work experience beginning with the most recent.

Inclusive Dates		Place of Employment	Description of Activities
Began (Month/Year)	Ended (Month/Year)		

4. (Optional) - Membership in societies or associations: (Professional, Scientific or Technical)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## HIGH SCHOOL AND COLLEGE

5. Name and location of institutions attended:

Period of Attendance  
(From: Month/Year to Month/Year)

(Name) \_\_\_\_\_ (City, State) \_\_\_\_\_

(Name) \_\_\_\_\_ (City, State) \_\_\_\_\_

(Name) \_\_\_\_\_ (City, State) \_\_\_\_\_

Received the degree of \_\_\_\_\_ from \_\_\_\_\_  
(College or University)

on the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_

# Proposed Regulations

Please have your veterinary technology school send an official transcript to the Board office. In the event you have not graduated, your school must send a current transcript and arrangements must be made for a final transcript to be sent to the Board of Veterinary Medicine when you graduate.

6. List all jurisdictions in which you are or have been licensed/certified to practice veterinary technology.

Jurisdictions	How Licensed/Certified	License Number	Date of Issuance	Years of Practice

Please have each of the above jurisdictions send directly to the Virginia Board certification that your license/certificate is/was in good standing.

7. Have you ever been denied the privilege of taking, or ever failed, the veterinary technician examination given by another board?  Yes  No

If yes, give dates, boards, and explanations: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

8. Have any charges or complaints relating to the practice of veterinary technology, formal or informal, ever been made or filed against you, or have any proceedings been instituted against you? If the answer is yes, for each occurrence furnish a written statement giving the dates, the nature of the charge, the disposition of the matter, and the name and address of the authority in possession of the records thereof.  Yes  No

9. Have you, within the last two years, been treated by, consulted with or been under the care of a professional for substance abuse?  Yes  No

10. Do you have a mental or physical condition which could affect your performance of professional duties? If yes, please provide a detailed explanation and a letter from the treating professional.  Yes  No

11. Have you ever been reprimanded, had your license/certificate suspended, cancelled, or revoked by any board? If yes, give jurisdictions, reasons and dates.  Yes  No

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

12. In addition to the foregoing, I add the following:

- (a) I have read the Virginia Board of Veterinary Medicine statutes and regulations and am aware that if granted a license to practice veterinary technology in Virginia, I am required to comply with any laws and regulations governing the practice of veterinary technology and the use of controlled substances in Virginia.
- (b) I hereby give permission to the Virginia Board of Veterinary Medicine to obtain additional information relating to any statement in this application from any person or any source as the Board may desire.
- (c) I shall present any credentials required or requested by the Board.
- (d) I have attached a money order or check in the amount of \$ \_\_\_\_\_, made payable to the Treasurer of Virginia.
- (e) I hereby certify that in applying to the Virginia Board of Veterinary Medicine for a license to practice veterinary technology in Virginia, I have made no fraudulent or deceitful statements, no omissions, nor have I misrepresented any material fact.
- (f) I hereby expressly waive all provisions of law forbidding any physician or other person who has attended or examined me from disclosing any knowledge or information which he thereby acquired, and I hereby consent that he may disclose such knowledge or information to the Virginia Board of Veterinary Medicine.

I have carefully read the statements and questions in the foregoing application and have answered them completely without reservations of any kind, and I declare under penalty of perjury that my answers and all statements made by me herein are true and correct. Should I furnish any false information in this application, I hereby agree that such act shall constitute cause for the denial, suspension or revocation of my license to practice veterinary technology in the Commonwealth of Virginia.

\_\_\_\_\_  
Applicant's Signature

The City/County of \_\_\_\_\_ State of \_\_\_\_\_

Before me, the undersigned authority, on this day personally appeared \_\_\_\_\_ who after being duly sworn by me on his or her oath that all facts, statements, and answers contained in this application are true and correct in every respect, and that the attached photograph is a true likeness of the applicant.

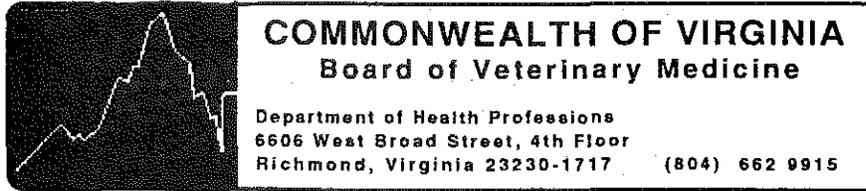
\_\_\_\_\_  
Applicant's Signature - Signed in presence of Notary

Sworn and subscribed to before me this \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_, to certify which witness my hand and official seal of office.

My Commission expires: \_\_\_\_\_

\_\_\_\_\_  
Notary

(SEAL)



**Instructions to Applicants**

Fill in your name, name of licensing board and send one copy of this form to each board by which you are, or have been, licensed or certified to practice as a **veterinary technician.**

TO: \_\_\_\_\_  
State and Name of Board

FROM: VIRGINIA BOARD OF VETERINARY MEDICINE

\_\_\_\_\_ has applied for licensure or the reinstatement of their **Veterinary Technician** license in Virginia. We would appreciate it if you would complete the following information regarding this applicant:

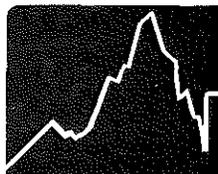
1. License or certification number \_\_\_\_\_ Date: \_\_\_\_\_
2. Basis for Licensure \_\_\_\_\_ National Board Examination  
Or Certification: \_\_\_\_\_ State Board Examination  
\_\_\_\_\_ Other
3. Has this license or certificate ever been suspended, revoked, or disciplined in any way? Yes \_\_\_\_\_ No \_\_\_\_\_. If yes, please provide details.
4. Do you have any derogatory information concerning this applicant?  
Yes \_\_\_\_\_ No \_\_\_\_\_. If yes, please provide details.
5. Is this applicant currently licensed or certified by your board?  
Yes \_\_\_\_\_ No \_\_\_\_\_. If no, when did license expire? Date \_\_\_\_\_
6. Would your board recommend this applicant for licensure in Virginia?  
Yes \_\_\_\_\_ No \_\_\_\_\_.



\_\_\_\_\_  
Signature of Authorized Person

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date



**COMMONWEALTH OF VIRGINIA  
Board of Veterinary Medicine**

Department of Health Professions  
6606 West Broad Street, 4th Floor  
Richmond, Virginia 23230-1717

(804) 662-9915

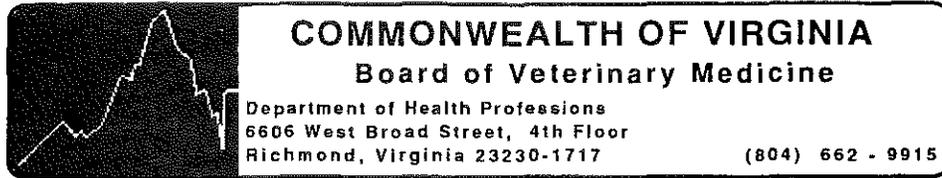
<p style="text-align: center;"><b>SECURELY ATTACH A PASSPORT-TYPE PHOTOGRAPH IN THIS SPACE</b></p> <p style="text-align: center;"><b>PHOTOGRAPH CANNOT BE ANY LARGER THAN THE SPACE PROVIDED</b></p>	<p><b>APPLICATION FOR NATIONAL BOARD EXAMINATION IN VETERINARY TECHNOLOGY</b></p> <p><b>NATIONAL BOARD EXAMINATION FEE:</b> _____</p> <p><b>APPLICATION DEADLINE:</b> _____</p>
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I hereby make application for the National Board Examination in Veterinary Technology to be administered by the Virginia Board of Veterinary Medicine.

1. NAME IN FULL (Please Print or Type)

Last	First	Middle/Maiden
Address (Present) - Street		
City	State	Zip Code
Address (Permanent) - Street		
City	State	Zip Code
Date of Birth	Social Security Number	Area Code and Telephone Number
Mo    Day    Yr		
Graduation Date	Professional School Degree	School, City, State
Mo    Day    Yr		

APPLICANTS DO NOT USE THESE SPACES - FOR OFFICE USE ONLY.		
CLASS	TESTING NUMBER	FEE
SCHOOL CODE	NATIONAL BOARDS	STATE BOARD



Securely attach a  
 passport-type  
 photograph in this space  
 Photograph CANNOT be  
 any larger than the space  
 provided.

**APPLICATION FOR NATIONAL BOARD  
 EXAMINATION & CLINICAL COMPETENCY  
 TEST IN VETERINARY MEDICINE**

CHECK APPROPRIATE BLOCK(S)		Application Deadline: <u>OCT. 27, 1995</u>
NATIONAL BOARD EXAMINATION (\$215 Fee) <input type="checkbox"/>	CLINICAL COMPETENCY TEST (\$165 Fee) <input type="checkbox"/>	

I hereby make application for the national board examination and/or the clinical competency test to be administered by the Virginia Board of Veterinary Medicine. Do not staple enclosures to this application blank.

1. NAME IN FULL (PLEASE PRINT OR TYPE)

Last		First	Middle/Maiden
Address(Present)-Street			
City		State	Zip Code
Address(Permanent) -Street			
City		State	Zip Code
Date of Birth MO DAY YR		Social Security Number	Area Code & Telephone Number
Graduation Date MO DAY YR		Professional School Degree	School, City, State

APPLICANTS DO NOT USE THESE SPACES - FOR OFFICE USE ONLY

Class	Testing Number	Fee
School Code	National Boards	C.C.T.



COMMONWEALTH of VIRGINIA

Virginia Board of Veterinary Medicine
6606 WEST BROAD STREET
4TH FLOOR
RICHMOND VA 23230-1717

Date on which facility will be ready for inspection

APPLICATION FOR AN ANIMAL FACILITY PERMIT

(Applications must be made to the Board 60 days in advance of opening.)

Form with fields for NAME OF FACILITY, TELEPHONE NO., STREET ADDRESS, CITY, STATE, and ZIP CODE.

A FEE MUST BE ENCLOSED WITH THE APPLICATION WHERE INDICATED.

APPLICATION IS HEREBY MADE FOR THE FOLLOWING:

- 1) [ ] New, FULL-SERVICE, Animal Facility Permit (Inspection Required) \$100 Fee
[ ] New, RESTRICTED, Animal Facility Permit (Inspection Required) \$100 Fee
[ ] Change to RESTRICTED Animal Facility No Charge
[ ] Change to FULL-SERVICE Animal Facility (Inspection Required) \$100 Fee
[ ] Change of Location of Animal Facility (Inspection Required) \$100 Fee
[ ] Change of Name of Animal Facility No Charge
[ ] Change of Veterinarian-in-Charge \$20 Fee

- 2) TYPE MODE SPECIALITY
[ ] Small Animal Only [ ] Hospital [ ] Bovine
[ ] Large Animal Only [ ] Mobile [ ] Equine
[ ] Mixed [ ] Other
[ ] Other

3) A veterinarian-in-charge must be named. Please complete the Application for Veterinarian-in-Charge on the back of this sheet.

STAFF VETERINARIANS

Form with 4 numbered lines for listing staff veterinarians.

(OVER)

# Proposed Regulations

- 2 -

5) Does this facility replace a facility currently licensed by the Board?  Yes  No  
 If yes, what is the name and permit number.

\_\_\_\_\_ Animal Facility Name \_\_\_\_\_ Permit No. \_\_\_\_\_

**Restricted Facility Applicants:**

(a) What services will not be provided:

_____	_____
_____	_____
_____	_____
_____	_____

(b) Is this information posted conspicuously in the facility?  Yes  No

**APPLICATION FOR VETERINARIAN-IN-CHARGE  
 AT FACILITY NAMED ON REVERSE SIDE**

\_\_\_\_\_ Name of Veterinarian-in-Charge (Type or Print)

I agree to serve as the veterinarian-in-charge at the \_\_\_\_\_ Name of Animal Facility

located at \_\_\_\_\_ City, State, ZIP Code

I understand and assume the duties and responsibilities incumbent to the role as specified in §4.1(B) of the Regulations of the Virginia Board of Veterinary Medicine. By signing my name below, I acknowledge that I have read and understand the responsibilities of the veterinarian-in-charge, and agree to perform those duties at the above named animal facility.

\_\_\_\_\_ Date \_\_\_\_\_ Signature of Veterinarian-in-Charge

DO NOT USE THESE SPACES — FOR OFFICE USE ONLY				
(CLASS)	(FILE NO.)	(SUFFIX)	(LICENSE PRINT)	(FEE)
(PERMIT NO.)	(EXPIRATION DATE)	(INSPECTION DATE)	(DATE ISSUED)	

# FINAL REGULATIONS

For information concerning Final Regulations, see Information Page.

## Symbol Key

Roman type indicates existing text of regulations. *Italic type* indicates new text. Language which has been stricken indicates text to be deleted. [Bracketed language] indicates a substantial change from the proposed text of the regulation.

## DEPARTMENT OF HEALTH (STATE BOARD OF)

Title of Regulation: [ ~~VR 355-18-000 12 VAC 5-590-10 et seq.~~ ] **Waterworks Regulations** (amendments to ~~VR 355-18-001.02, VR 355-18-002.04, VR 355-18-004.01, VR 355-18-004.04, VR 355-18-004.08, VR 355-18-004.09, VR 355-18-005.09, VR 355-18-005.10, VR 355-18-005.11~~ 12 VAC 5-590-10, 12 VAC 5-590-50, 12 VAC 5-590-340, 12 VAC 5-590-370, 12 VAC 5-590-410, 12 VAC 5-590-420, 12 VAC 5-590-530, 12 VAC 5-590-540, 12 VAC 5-590-550, and Appendices B, F and M relating to lead and copper).

Statutory Authority: §§ 32.1-12 and 32.1-170 of the Code of Virginia.

Effective Date: November 15, 1995.

### Summary:

*The Virginia Department of Health is the delegated state agency for primary enforcement authority (primacy) for the federal Safe Drinking Water Act and must meet certain United States Environmental Protection Agency mandates to retain this authority. These amendments to the existing Waterworks Regulations incorporate the federal Safe Drinking Act Lead and Copper Rule (40 CFR § 141.80 et seq.). These amendments consist of maximum contaminant levels, reporting, public notification, treatment technique and monitoring requirements for lead and copper. The amendments conform the state program to federal law and should avoid duplicative enforcement action by the United States Environmental Protection Agency under federal law.*

Summary of Public Comment and Agency Response: No oral or written comments were received during the public comment period.

Agency Contact: Copies of the regulation may be obtained from Allen R. Hammer, Director, Division of Water Supply Engineering, Department of Health, P. O. Box 2448, Richmond, Virginia 23219, telephone (804) 786-5566.

### **12 VAC 5-590-10. Definitions.**

As used in this chapter, the words and terms hereinafter set forth shall have meanings respectively set forth unless the context clearly requires a different meaning.

*"Action level" means the concentration of lead or copper in water specified in 12 VAC 5-590-410 E, which determines, in some cases, the treatment requirements contained in 12 VAC 5-590-420 C, D, E and F that a waterworks is required to complete.*

*"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.

*"Annual daily water demand" means the average rate of daily water usage over at least the most recent three-year period.*

*"Applied water" means water that is ready for filtration.*

*"Approved" means material, equipment, workmanship, process or method that has been accepted by the division as suitable for the proposed use.*

*"Auxiliary water system" means any water system on or available to the premises other than the waterworks. These auxiliary waters may include water from a source such as wells, lakes, or streams; or process fluids; or used water. They may be polluted or contaminated or objectionable, or constitute an unapproved water source or system over which the water purveyor does not have control.*

*"Backflow" means the flow of water or other liquids, mixtures, or substances into the distribution piping of a waterworks from any source or sources other than its intended source.*

*"Backflow prevention device" means any approved device, method, or type of construction intended to prevent backflow into a waterworks.*

*"Best available technology (BAT)" means the best technology, treatment techniques, or other means which the commissioner finds, after examination for efficacy under field conditions and not solely under laboratory conditions and in conformance with applicable EPA regulations, 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.*

*"Chlorine" means dry chlorine.*

*"Chlorine gas" means dry chlorine in the gaseous state.*

*"Chlorine solution (chlorine water)" means a solution of chlorine in water. Note: the term chlorine solution is sometimes used to describe hypochlorite solutions. This use of the term is incorrect.*

*"Coagulation" means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.*

*"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*

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## Final Regulations

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included are all bacteria that produce a dark, purplish-green colony with metallic sheen by the membrane filter technique used for coliform identification.

*"Commissioner"* means the State Health Commissioner.

*"Community water system"* means a waterworks which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

*"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 which has no water production or source facility of its own and which obtains all of its water from another permitted waterworks.

*"Consumer"* means any person who drinks water 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.

*"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"* means any connection or structural arrangement, direct or indirect, to the waterworks whereby backflow can occur.

*"CT"* or *"CTcalc"* 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.

*"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 added to water in any part of the treatment or distribution process for the purpose of killing or deactivating 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 which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

*"Distribution main"* means a water main whose primary purpose is to provide treated water to service connections.

*"Division"* means the Commonwealth of Virginia, Department of Health, Division of Water Supply Engineering.

*"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.

*"Domestic use or usage"* means normal family or household use, including drinking, laundering, bathing, cooking, heating, cleaning and flushing toilets (see Article 2 (§ 32.1-167 et seq.) of Chapter 6 of Title 32.1 of the Code of Virginia).

*"Double gate-double check valve assembly"* means an approved assembly composed of two single independently acting check valves including tightly closing shutoff valves located at each end of the assembly and petcocks and test gauges for testing the watertightness of each check valve.

*"Effective corrosion inhibitor residual," for the purpose of 12 VAC 5-590-420 C 1 only, means a concentration sufficient to form a passivating film on the interior walls of a pipe.*

*"Entry point"* means the place where water from the source after application of any treatment is delivered to the distribution system.

*"Equivalent residential connection"* means a volume of water used equal to a residential connection which is 400 gallons per day unless supportive data indicates otherwise.

*"Exception"* means an approved deviation from a "shall" criteria contained in Part III of this chapter.

*"Exemption"* means a conditional waiver of a specific PMCL or treatment technique requirement which is granted to a specific waterworks for a limited period of time.

*"Filtration"* means a process for removing particulate matter from water by passage through porous media.

*"First draw sample"* means a one-liter sample of tap water, collected in accordance with 12 VAC 5-590-370 B 6 a(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.

*"Free available chlorine"* means that portion of the total residual chlorine remaining in water at the end of a specified contact period which will react chemically and biologically as hypochlorous acid or hypochlorite ion.

*"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.

*"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 under the direct influence of surface water"* 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 (ii) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence of surface water will be determined by the division in accordance with 12 VAC 5-590-430.

*"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 which include all primary maximum contaminant levels, treatment technique requirements, and all operational regulations, the violation of which would jeopardize the public health.

*"Hypochlorite"* means a solution of water and some form of chlorine, usually sodium hypochlorite.

*"Interchangeable connection"* means an arrangement or device that will allow alternate but not simultaneous use of two sources of water.

*"Karstian geology"* means an area predominantly underlain by limestone, dolomite, or gypsum and characterized by rapid underground drainage. Such 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.

*"Large waterworks," for the purposes of 12 VAC 5-590-370 B 6, 12 VAC 5-590-420 C through F, 12 VAC 5-590-530 D, and 12 VAC 5-590-550 D only, means a waterworks that serves more than 50,000 persons.*

*"Lead service line"* means a service line made of lead which connects the water main to the building inlet and any lead pigtail, gooseneck or other fitting which is connected to such lead line.

*"Legionella"* means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

*"Liquid chlorine"* means a liquefied, compressed gas as shipped in commerce. Note: The term liquid chlorine is sometimes used to describe a hypochlorite solution often employed for swimming pool sanitation. This use of the term is incorrect.

*"Log inactivation (log removal)"* means that a 99.9% reduction is a 3-log inactivation; a 99.99% reduction is a 4-log inactivation.

*"Man-made 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.

*"Maximum daily water demand"* means the rate of water usage during the day of maximum water use.

*"Maximum contaminant level (MCL)"* means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate any user of a waterworks, except in the cases of turbidity and VOCs, where the maximum permissible level is measured at each entry point to the distribution system. Contaminants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition. Maximum contaminant levels may be either "primary" (PMCL), meaning based on health considerations or "secondary" (SMCL) meaning based on aesthetic considerations.

*"Maximum total trihalomethane potential (MTP)"* means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after seven days at a temperature of 25°C or above.

*"Medium-size waterworks," for the purpose of 12 VAC 5-590-370 B 6, 12 VAC 5-590-420 C through F, 23 VAC 5-590-530, and 12 VAC 5-590-550 D only, means a waterworks that serves greater than 3,300 and less than or equal to 50,000 persons.*

*"Most probable number (MPN)"* means that 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.

*"Noncommunity water system"* 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.

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# Final Regulations

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*"Nontransient noncommunity water system (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.

*"One hundred (100) year flood level"* means the flood elevation which will, over a long period of time, be equaled or exceeded on the average once every 100 years.

*"Operator"* means any individual employed or appointed by any owner, and who is designated by such owner to be the person in responsible charge, such as a supervisor, a shift operator, or a substitute in charge, and whose duties include 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' taps while ensuring that the treatment does not cause the waterworks to violate any other waterworks regulations.

*"Owner" or "water purveyor"* means an individual, group of individuals, partnership, firm, association, institution, corporation, governmental entity, or the federal government which supplies or proposes to supply water to any person within this state 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).

*"Picocurie (pCi)"* means that quantity of radioactive material producing 2.22 nuclear transformations per minute.

*"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 (POE)"* 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.

*"Point-of-use treatment device (POU)"* 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 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.

*"Post-chlorination"* means the application of chlorine to water subsequent to treatment.

*"Practical quantitation level (PQL)"* means the lowest level achievable by good laboratories within specified limits during routine laboratory operating conditions.

*"Prechlorination"* means the application of chlorine to water prior to filtration.

*"Process fluids"* means any fluid or solution which may be chemically, biologically, or otherwise contaminated or polluted which would constitute a health, pollutional, or system hazard if introduced into the waterworks. This includes, but is not limited to:

1. Polluted or contaminated water,
2. Process waters,
3. Used waters, originating from the waterworks which 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 fire fighting purposes.

*"Pure water" or "potable water"* means water fit for human consumption and domestic use which is sanitary and normally free of minerals, organic substances, and toxic agents in excess of reasonable amounts for domestic usage in the area served and normally 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 which conveys untreated water from a source to a treatment facility.

*"Reduced pressure principle backflow prevention device (RPZ device)"* 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. 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 must include tightly closing shut-off valves located at each end of the device, and each device shall be fitted with properly located test cocks. These devices must 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) is 1/1000 of a REM.

*"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 piping and fixtures, such as sinks, lavatories, showers, and toilets, supplied with potable water and drained by wastewater piping.

*"Sanitary survey"* means an investigation of any condition that may affect public health.

**"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.

**"Sedimentation"** means a process for removal of solids before filtration by gravity or separation.

**"Service connection"** means the point of delivery of water to a customer's building service line as follows:

- a. If a meter is installed, the service connection is the downstream side of the meter;
- b. If a meter is not installed, the service connection is the point of connection to the waterworks;
- c. 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 12 VAC 5-590-370 B 6 a(2)(c), that has been standing for at least six hours in a service line.

**"Sewer"** means any pipe or conduit used to convey sewage or industrial waste streams.

**"Single family structure,"** for the purpose of 12 VAC 5-590-370 B 6(a) only, means a building constructed as a single-family residence that is currently used as either a residence or a place of business.

**"Slow sand filtration"** means a process involving passage of raw 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,"** for the purpose of 12 VAC 5-590-370 B 6, 12 VAC 5-590-420 C through F, 12 VAC 5-590-530 D and 12 VAC 5-590-550 D only, means 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.

**"Surface water"** means all water open to the atmosphere and subject to surface runoff.

**"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.

**"Too numerous to count"** 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 12 VAC 5-590-690 C to the highest elevation served within that reservoir's service area under system-wide maximum daily water demand.

**"Total trihalomethanes (TTHM)"** means the sum of the concentrations of the trihalomethanes expressed in milligrams per liter (mg/L) and rounded to two significant figures. For the purpose of these regulations, the TTHM's shall mean trichloromethane (chloroform), dibromochloromethane, bromodichloromethane, and tribromomethane (bromoform).

**"Transmission main"** means a water main whose primary purpose is to move significant quantities of treated water among service areas.

**"Treatment technique requirement"** means a requirement which specifies for a contaminant a specific treatment technique(s) demonstrated to the satisfaction of the division to lead to a reduction in the level of such contaminant sufficient to comply with these regulations.

**"Trihalomethane (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.

**"Unregulated contaminant (UC)"** means a contaminant for which a monitoring requirement has been established, but for which no MCL or treatment technique requirement has been established.

**"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.

**"Virus"** means a virus of fecal origin which is infectious to humans by waterborne transmission.

**"Variance"** means a conditional waiver of a specific regulation which is granted to a specific waterworks. 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. Variances for monitoring, reporting and public notification requirements will not be granted.

**"Volatile synthetic organic chemical (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.

**"Waterborne disease outbreak"** means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a waterworks which is deficient in treatment, as determined by the commissioner or the State Epidemiologist.

**"Water purveyor"** (same as owner)

**"Water supply"** means water that shall have been taken into a waterworks from all wells, streams, springs, lakes, and other bodies of surface waters (natural or impounded), and the tributaries thereto, and all impounded groundwater, but the term "water supply" shall not include any waters above the point of intake of such waterworks (see Article 2 (§ 32.1-167. et seq.) of Chapter 6 of Title 32.1 of the Code of Virginia).

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"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.

"Waterworks" means a system that serves piped water for drinking or domestic use to (i) the public, (ii) at least 15 connections, or (iii) an average of 25 individuals for at least 60 days out of the year. The term "waterworks" shall include all structures, equipment and appurtenances used in the storage, collection, purification, treatment and distribution of pure water except the piping and fixtures inside the building where such water is delivered (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 which supplies drinking water to consumers via a single service line.

## **12 VAC 5-590-50. Application of regulations to waterworks and water supplies in operation or planned prior to the effective date of the regulations.**

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.

B. Compliance with design criteria set forth in Parts III and IV is necessary for waterworks modification and construction commenced after the effective date of these revised regulations. 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.

C. Compliance with the requirements set forth in Parts III and IV for materials, construction methods, disinfection, etc., is necessary for all repairs to pipes, tanks, pumps, and appurtenances which 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 otherwise indicated, each of the provisions of 12 VAC 5-590-370 B 6, 12 VAC 5-590-420 C through F, 12 VAC 5-590-530 D and 12 VAC 5-590-550 D applies to community waterworks and nontransient noncommunity waterworks. The requirements set forth in 12 VAC 5-590-370 B 6, 12 VAC 5-590-530 D and 12 VAC 5-590-550 D shall take effect on July 7, 1991. The requirements in 12 VAC 5-590-420 C through F shall take effect on December 7, 1992.

## **12 VAC 5-590-340. General.**

All physical, chemical, bacteriological, or radiological analyses for the purpose of demonstrating compliance with primary and secondary maximum contaminant levels or action levels shall be performed by the Commonwealth of Virginia, Department of General Services, Division of Consolidated Laboratory Services (DCLS) or in laboratories certified by the Division of Consolidated Laboratory Services for such purposes. The owner is responsible for the collection and submission of all samples. A sample is deemed to have been collected only if and when its results are made known to the Division of Water Supply Engineering.

## **12 VAC 5-590-370. Sampling frequency.**

The division 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), and trihalomethanes (subdivision B 2), and lead and copper (subdivision B 6). The required sampling frequencies are as follows:

### **A. Bacteriological.**

1. The waterworks owner shall collect total coliform samples at sites which are representative of water throughout the distribution system according to a written sample siting report. The report shall be established or approved by the division after investigation of the source, method of treatment and storage, and protection of the water concerned. The report must include, but is not limited to, the following:

a. The frequency of sampling distributed evenly throughout the month/quarter,

b. Distribution map showing the generalized location where specific sampling sites will be selected,

c. Supporting statement explaining how specific individual sites are selected, how sampling will be rotated among the sites, how repeat samples will be collected and other information demonstrating that sampling will be conducted in a manner to comply with these regulations.

d. Adequate sampling points to provide sampling representative of all the conditions in the system,

e. For small systems (less than 3,301 population), sample sites must also be identified by address and code number location,

f. Minimum of three sample locations for each sample required monthly so repeat sample locations are previously ascertained as being adequate in number and five customer service connections upstream and downstream. (See Appendix J for an example.)

g. The sampling point required to be repeat sampled shall not be eliminated from future collections based on a history of questionable water quality unless the sampling point is unacceptable as determined by the division.

2. The minimum number of bacteriological samples for total coliform evaluation to be collected and analyzed monthly from the distribution system of a community or nontransient noncommunity waterworks shall be in accordance with Table 2.1. All noncommunity waterworks that use a surface water source or a groundwater source under the direct influence of surface water, and all large noncommunity (serving 1,000 or more persons per day) waterworks, shall collect and submit samples monthly for analysis in accordance with Table 2.1. All other noncommunity waterworks shall submit samples for analysis each calendar quarter in accordance with Table 2.1.

3. The samples shall be taken at reasonably evenly spaced time intervals throughout the month or quarter.

If the results of a sanitary survey or other factors determine that some other frequency is more appropriate than that stated above, a modified sampling program report may be required. The altered frequency shall be confirmed or changed on the basis of subsequent surveys.

4. All bacteriological analyses shall be performed in accordance with 12 VAC 5-590-440 by the DCLS or by a laboratory certified by DCLS for drinking water samples.

TABLE 2.1

POPULATION SERVED PER DAY	MINIMUM NUMBER OF SAMPLES
(See 12 VAC 5-590-370 A 2)	
25 to 1,000	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

B. Chemical. The location of sampling points, the chemicals measured, and the frequency, and the timing of sampling shall be established or approved by the division. Composite sampling for analysis shall not be allowed. Samples for contaminants that may exhibit seasonal variations shall be collected during the period of the year when contamination is most likely to occur. Failure to comply with the sampling schedules in this section will require public notification pursuant to 12 VAC 5-590-540. Special sampling requirements for specific chemical contaminants are specified in subdivisions B 2 through B7 of this section.

1. The minimum number of samples required for those chemicals listed in Tables 2.2 and 2.3 shall be as follows:

- a. One distribution system sample per year for all systems with surface water sources.
- b. One distribution system sample every three years for community and nontransient noncommunity systems with groundwater sources.
- c. One distribution system sample every five years for nitrate for all other noncommunity systems.

2. Trihalomethanes. Samples for TTHM analyses shall be collected quarterly from all community and nontransient noncommunity waterworks which disinfect and serve 10,000 or more individuals. At least four samples for each treatment plant used by the waterworks must be collected using the following criteria: at least 25% of the samples shall be taken at locations within the distribution system reflecting the maximum residence time of the water in the system. The remaining 75% shall be taken at representative locations in the distribution system, taking into account the number of persons served, different sources of water and different treatment methods employed. Sample locations shall be approved by the division.

- a. Community and nontransient noncommunity waterworks utilizing surface water in whole or in part, may, upon written request, have the monitoring frequency reduced by the division to a minimum of one sample per quarter taken at a point of maximum residence time of the water in the distribution system. The division must make a written determination that

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data from at least one year of monitoring and local conditions indicate that TTHM concentrations will be consistently below the PMCL.

If at any time in the reduced monitoring program the results from any analysis exceed the PMCL for TTHMs and such results are confirmed by at least one check sample taken promptly after such results are received, or if the waterworks makes any significant change to its source of water or treatment program, the waterworks shall immediately begin monitoring in accordance with subdivision B 2 of this section. Routine monitoring must continue for at least one year before a reduced monitoring frequency can be implemented again.

b. Community and nontransient noncommunity waterworks utilizing groundwaters only, may, upon written request, have the monitoring frequency reduced to a minimum of one sample per year for TTHM. This sample shall be collected at a point in the distribution system reflecting the maximum residence time of the water. The division must make a written determination that the data indicates the system has a TTHM concentration of less than the PMCL and local conditions indicate that TTHM concentrations will be consistently below the PMCL.

If at any time in the reduced monitoring program the results from any TTHM exceed or equal the PMCL and such results are confirmed by at least one check sample taken promptly after such results are received, the waterworks shall immediately begin monitoring in accordance with subdivision B 2 of this section. Routine monitoring must continue for at least one year before a reduced monitoring frequency can be implemented again.

If any significant change occurs in the raw water or if the waterworks treatment process is altered, an additional sample for TTHM shall be analyzed immediately to determine whether the waterworks must comply with the monitoring requirements of subdivision B 2 of this section. The sample shall be collected at a point in the distribution system reflecting the maximum residence time of the water.

c. Nothing shall prevent the division from requiring additional samples for TTHM or MTP analysis when conditions warrant.

d. Nothing shall prevent the TTHM regulations from being applicable to waterworks serving less than 10,000 individuals when in the determination of the division, public health will be better served.

e. With prior approval of the division, waterworks which utilize multiple wells from a common aquifer may consider these multiple sources as one treatment plant for determining the minimum number of samples to be collected for TTHM analysis.

f. All samples for TTHM or MTP taken within an established frequency shall be collected within a 24-hour period.

g. The results of all analyses per quarter shall be arithmetically averaged and reported to the division within 30 days of the owner's receipt of the results (when samples are not analyzed by the state). All samples collected shall be used in the computation of the average unless the results are invalidated for technical reasons.

h. Analysis shall be conducted in accordance with 12 VAC 5-590-440.

i. Before any modification to a waterworks is undertaken for the purposes of complying with this section, approval must be obtained in accordance with 12 VAC 5-590-200. In addition, the following information, as a minimum, may be required from the owner:

(1) An evaluation of the waterworks for sanitary defects and an evaluation of the source water for biological quality;

(2) Evaluation of existing treatment practices and indication of how proposed improvements will minimize disinfectant demand and optimize finished water quality;

(3) Provision of results of a baseline water quality survey. Parameters monitored should include coliform, fecal coliform, fecal streptococci, heterotrophic plate counts at 20°C and 35°C, phosphate, ammonia nitrogen and TOC. Virus studies may be necessary as determined by the division.

(4) Performance of additional monitoring to assure continued maintenance of optimal biological quality in the finished water;

(5) Consideration of a plan to maintain an active disinfectant residual throughout the distribution system at all times during and after proposed modifications.

3. Volatile Organic Chemicals (VOCs) and other organic contaminants. All community and nontransient noncommunity waterworks must sample for VOCs every three months at each entry point to their distribution system using the implementation schedule in Table 2.7. Where two or more sources are combined before distribution, the waterworks must sample at the entry point for the combined sources during periods of normal operating conditions.

a. Waterworks not detecting VOCs.

(1) Groundwater systems. The division may reduce the sampling frequency for waterworks with groundwater sources as follows:

(a) When VOCs are not detected in the first sample (or in any subsequent samples) and the waterworks is not vulnerable as defined in subdivision B 3 c of this section, the sampling frequency may be reduced to one sample every five years.

(b) When VOCs are not detected in the first sample (or in any subsequent samples) and the waterworks is vulnerable as defined in subdivision B 3 c of this section, the sampling may be reduced to one sample every three years for systems with more than 500 connections. The sampling frequency may be reduced to one sample every five years for waterworks with 500 or fewer connections.

(2) Surface water systems. The division may reduce the sampling frequency for waterworks with surface water source as follows:

(a) When VOCs are not detected in the first year of quarterly samples (or in any other subsequent samples) and the waterworks is not vulnerable as defined in subdivision B 3 c of this section, monitoring is only required at division discretion.

(b) When VOCs are not detected in the first year of quarterly samples (or in any other subsequent samples) and the waterworks is vulnerable as defined in subdivision B 3 c of this section, the sampling frequency may be reduced to one sample every three years for waterworks with more than 500 connections. The sampling frequency may be reduced to one sample every five years for waterworks with 500 or fewer connections.

b. Waterworks detecting VOCs. The division may reduce the monitoring frequency for waterworks detecting VOCs to one sample per year if the levels of VOCs detected are consistently less than the PMCLs in quarterly samples for three consecutive years.

c. Vulnerability. The division shall determine the vulnerability of each community and nontransient noncommunity waterworks based on the previous monitoring results and proximity to commercial or industrial use, storage, or disposal of volatile synthetic organic chemicals. A waterworks is deemed vulnerable for a period of three years after any positive measurement of one or more contaminants listed as a VOC in Table 2.3 or listed in Table 2.6.

d. Repeat samples. The division may require repeat samples for positive or negative results. Results from a repeat sample may be averaged with the initial sample results. The division has the discretion to delete results of obvious sampling errors from this calculation.

e. Vinyl chloride. Analysis for vinyl chloride is required only for groundwater sources where one or more of the following two-carbon organic compounds have been detected:

Trichloroethylene	trans-1,2-Dichloroethylene
Tetrachloroethylene	1,1-Dichloroethylene
1,2-Dichloroethane	1,1,1-Trichloroethane
cis-1,2-Dichloroethylene	

If the first analysis does not detect vinyl chloride, the division may reduce sampling for vinyl chloride to once every three years for that same entry point location. Surface water systems may be required to analyze for vinyl chloride at the discretion of the division.

f. The division may increase required monitoring where necessary to detect contaminant variations within the waterworks.

4. Unregulated contaminants (UCs). All community and nontransient noncommunity waterworks shall sample for the contaminants listed in Table 2.6 using the implementation schedule in Table 2.7 as follows:

a. Surface water systems shall sample in the distribution system representative of each water source or at entry points to the distribution system. The minimum number of samples is one year of consecutive quarterly samples per water source.

b. Groundwater systems shall sample at points of entry to the distribution system representative of each source. The minimum number of samples is one sample per entry point to the distribution system.

c. The division may require repeat samples for positive or negative results.

d. Waterworks must monitor for EDB and DBCP only if the division determines they are vulnerable to contamination by one or both of these substances. A vulnerable waterworks under this subsection is one which may be potentially contaminated by EDB or DBCP, including surface water systems where either of these compounds are applied, manufactured, stored, disposed of or transported upstream, and for groundwater systems in areas where the compounds are applied, manufactured, stored, disposed of, or transported in the groundwater recharge basin, or for groundwater systems that are in proximity to underground storage tanks that contain leaded gasoline.

e. Waterworks serving less than 150 connections may inform the division in writing that their waterworks is available for sampling instead of performing the required sampling.

f. All waterworks required to sample under this section shall repeat the sampling at least every five years.

5. Fluoride. Waterworks sampling for fluoride shall comply with the following requirements:

a. The waterworks shall be sampled at the entry point to the distribution system of each water source.

b. If water from two or more sources is combined before distribution, the waterworks shall be sampled at the entry point to the distribution system during the period of maximum fluoride levels occurring under normal operating conditions.

c. The division may alter the frequencies for fluoride sampling as set out in subdivision B 1 of this section to increase or decrease such frequency considering the following factors:

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- (1) Reported concentrations from previous samples.
- (2) The degree of variation in reported concentrations.
- (3) Other factors which may affect fluoride concentrations such as changes in pumping rates of groundwater sources or significant changes in system configuration, operating conditions, sources of water, and changes in stream flow.

d. The division may decrease the required sampling frequencies set out in subdivision B 1 of this section upon written application from the waterworks owner if the division determines the system is unlikely to exceed the PMCL considering the factors in subdivision B 5 c of this section. Such determination shall be in writing and shall set forth the basis for the determination. This determination shall be reviewed at least once every 10 years. In no case shall monitoring be reduced to less than one sample every 10 years.

6. *Lead and Copper. The owners of all community and nontransient noncommunity waterworks shall monitor for lead and copper in tap water (subdivision B 6 a), water quality (corrosion) parameters in the distribution system and at entry points (subdivision B 6 b), and lead and copper in water supplies (subdivision B 6 c). The monitoring requirements contained in this section are summarized in Appendix M.*

a. *Monitoring requirements for lead and copper in tap water.*

(1) Sample site location

(a) *By the applicable date for commencement of monitoring under subdivision B 6 a(4)(a), each waterworks 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 section, and which is sufficiently large to ensure that the owner can collect the number of lead and copper tap samples required in subdivision B 6 a(3). All sites from which 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 or point-of-entry treatment devices designed to remove inorganic contaminants.*

(b) *A waterworks owner shall use the information on lead, copper, and galvanized steel that the owner is required to collect when conducting a materials evaluation (reference Appendix B Corrosion). When this evaluation 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 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):*

(i) *All plumbing codes, permits, and records in the files of the building department(s) which indicate the plumbing materials that are installed within publicly and privately owned structures connected to the distribution system;*

(ii) *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*

(iii) *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 sampling sites") shall consist of single family structures that:*

(i) *Contain copper pipes with lead solder installed between January 1983 and April 1986 or contain lead pipes; and/or*

(ii) *Are served by a lead service line.*

NOTE: *When multiple-family residences comprise at least 20% of the structures served by a waterworks, the waterworks may include these types of structures in its sampling pool.*

(d) *The owner of any community waterworks with insufficient tier 1 sampling sites shall complete the sampling pool with "tier 2 sampling sites", consisting of buildings, including multiple-family residences that:*

(i) *Contain copper pipes with lead solder installed between January 1983 and April 1986 or contain lead pipes; and/or*

(ii) *Are served by a lead service line.*

(e) *The owner of any community waterworks with insufficient tier 1 and tier 2 sampling sites shall complete the sampling pool with "tier 3 sampling sites," consisting of single family structures that contain copper pipes with lead solder installed before 1983.*

(f) *The sampling sites selected for a nontransient noncommunity waterworks ("tier 1 sampling sites") shall consist of buildings that:*

(i) *Contain copper pipes with lead solder installed between January 1983 and April 1986 or contain lead pipes; and/or*

(ii) *Are served by a lead service line.*

(g) The owner of a nontransient noncommunity waterworks with insufficient tier 1 sites that meet the targeting criteria in subdivision B 6 a (1) (f) of this section shall complete the sampling pool with sampling sites that contain copper pipes with lead solder installed before 1983.

(h) All waterworks owners shall notify the appropriate field office of the division in writing when the pool of sampling sites has been identified and indicate that a sufficient number of tier 1 sites were included in the pool to comply with the required number of sampling sites specified under subdivision B 6 a(3) of this section.

(i) The owner of any waterworks whose sampling pool does not consist exclusively of tier 1 sites shall demonstrate in a letter submitted to the field office under 12 VAC 5-590-530 D 1 b, why a review of the information listed in subdivision B 6 a(1)(b) of this section was inadequate to locate a sufficient number of tier 1 sites.

(ii) The owner of any community waterworks which includes tier 3 sampling sites in its sampling pool shall demonstrate in such a letter why it was unable to locate a sufficient number of tier 1 and tier 2 sampling sites.

(i) The owner of any 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 owner who cannot identify a sufficient number of sampling sites served by a lead service line shall demonstrate in a letter submitted to the field office under 12 VAC 5-590-530 D 1 d why the owner was unable to locate a sufficient number of such sites. The owner of such a waterworks shall collect first draw tap samples from all of the sites identified as being served by such lines.

(2) Sample collection methods.

(a) All tap samples for lead and copper, with the exception of lead service line samples collected under 12 VAC 5-590-420 E 3, shall be 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. First draw samples from residential housing shall be collected from the cold-water kitchen tap or bathroom sink tap. First-draw samples from a nonresidential building shall be collected at an interior tap from which water is typically drawn

for consumption. First draw samples may be collected by the waterworks owner or the owner may allow residents to collect first draw samples after instructing the residents of the sampling procedures. To avoid problems of residents handling nitric acid, acidification of first draw samples may be done up to 14 days after the sample is collected. If the sample is not acidified immediately after collection, then the sample must stand in the original container for at least 28 hours after acidification. If an owner allows residents to perform sampling, 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 12 VAC 5-590-420 E 3 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:

(i) 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;

(ii) Tapping directly into the lead service line; or

(iii) if the sampling site is a building constructed as a single-family residence, allowing the water to run until there is a significant change in temperature which would be indicative of water that has been standing in the lead service line.

(d) A waterworks owner shall collect each 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, 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.

(3) Number of samples. Waterworks owners shall collect at least one sample during each monitoring period specified in subdivision B 6 a(4) of this section from the number of sites listed in the first column below ("standard monitoring"). The owner of a waterworks conducting reduced monitoring under subdivision B 6 a(4)(d) of this section may collect one sample from the number of sites specified in the second column below during each monitoring period specified in subdivision B 6 a(4)(d) of this section.

System Size	# of sites	# of sites
(# People Served)	(Standard)	(Reduced)

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	Monitoring)	Monitoring)
>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
<100	5	5

#### (4) Timing of monitoring.

(a) *Initial tap sampling.* The first six-month monitoring period for small, medium-size and large waterworks shall begin on the following dates:

System Size (# People Served)	First six-month Monitoring Period Begins On
Large >50,000	January 1, 1992
Medium 3,301 to 50,000	July 1, 1992
Small <3,300	July 1, 1993

(i) All large waterworks shall monitor during two consecutive six-month periods.

(ii) All small and medium-size waterworks shall monitor during each six-month monitoring period until: the waterworks exceeds the lead or copper action level and is therefore required to implement the corrosion control treatment requirements under 12 VAC 5-590-420 C, in which case the owner shall continue monitoring in accordance with 12 VAC 5-590-370 B 6 a(4)(b), or the waterworks meets the lead and copper action levels during two consecutive six-month monitoring periods, in which case the owner may reduce monitoring in accordance with 12 VAC 5-590-370 B 6 a(4)(d).

(b) *Monitoring after installation of corrosion control and water supply (source water) treatment.*

(i) The owner of any large waterworks which installs optimal corrosion control treatment pursuant to 12 VAC 5-590-420 C 2 d(4) shall monitor during two consecutive six-month monitoring periods by the date specified in 12 VAC 5-590-420 C 2 d(5).

(ii) The owner of any small or medium-size waterworks which installs optimal corrosion control treatment pursuant to 12 VAC 5-590-420 C 2 e(5) shall monitor during two consecutive six-month monitoring periods by the date specified in 12 VAC 5-590-420 C 2 e(6).

(iii) The owner of any waterworks which installs source water treatment pursuant to 12 VAC 5-590-420 D 1 c shall monitor during two consecutive six-month monitoring periods by

the date specified in 12 VAC 5-590-420 D 1 d.

(c) *Monitoring after the commissioner specifies water quality parameter values for optimal corrosion control.* After the commissioner specifies the values for water quality control parameters under 12 VAC 5-590-420 C 1(f), the waterworks owner shall monitor during each subsequent six-month monitoring period, with the first monitoring period to begin on the date the commissioner specifies the optimal values under 12 VAC 5-590-420 C 1(f).

(d) *Reduced monitoring.*

(i) The owner of a small or medium-size waterworks that meets the lead and copper action levels during each of two consecutive six-month monitoring periods may reduce the number of samples in accordance with subdivision B 6 a of this section, and reduce the frequency of sampling to once per year.

(ii) The owner of any waterworks that maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the commissioner under subdivision C 1(f) of this section during each of two consecutive six-month monitoring periods may request that the commissioner allow the waterworks to reduce the frequency of monitoring to once per year and to reduce the number of lead and copper samples in accordance with subdivision B 6 a(3) of this section. The commissioner shall review the information submitted by the waterworks and shall make a decision in writing, setting forth the basis for its determination. The commissioner shall review, and where appropriate, revise its 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.

(iii) The owner of a small or medium-size waterworks that meets the lead and copper action levels during three consecutive years of monitoring may reduce the frequency of monitoring for lead and copper from annually to once every three years. Any waterworks that maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the commissioner under 12 VAC 5-590-420 C 1(f) during three consecutive years of monitoring may request that the commissioner allow the waterworks to reduce the frequency of monitoring from annually to once every three years. The commissioner shall review the information submitted by the owner and shall make a decision in writing, setting forth the basis for its determination.

The commissioner shall review, and where appropriate, revise its 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.

(iv) The owner of a waterworks that reduces the number and frequency of sampling shall collect these samples from sites included in the pool of targeted sampling sites identified in subdivision B 6 a(1) of this section. Waterworks sampling annually or less frequently shall conduct the lead and copper tap sampling during the months of June, July, August or September.

(v) The owner of a small or medium-size waterworks subject to reduced monitoring that exceeds the lead or copper action level shall resume sampling in accordance subdivision B 6 a(4)(c) of this section and collect the number of samples specified for standard monitoring under subdivision B 6 a(3) of this section. Such waterworks owner shall also conduct water quality parameter monitoring in accordance with subdivision B 6 b (2), (3), or (4) of this section (as appropriate) during the monitoring period in which the action level is exceeded. Any waterworks subject to reduced monitoring frequency that fails to operate within the range of values for the water quality control parameters specified by the commissioner under subdivision C 1(f) of this section shall resume tap water sampling in accordance with subdivision B 6 a(4)(c) of this section and collect the number of samples specified for standard monitoring under subdivision B 6 a(3) of this section.

(5) Additional monitoring by waterworks owner. The results of any monitoring conducted in addition to the minimum requirements of this section shall be considered by the waterworks owner and the commissioner in making any determinations (i.e., calculating the 90th percentile lead or copper level) under this subpart.

b. Monitoring requirements for water quality parameters. The owners of all large waterworks, and all small and medium-size waterworks that exceed the lead or copper action level shall monitor water quality parameters in addition to lead and copper in accordance with this section. The requirements of this section are in summarized Appendix M.

(1) General requirements.

(a) Sample collection methods.

(i) 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 12 VAC 5-590-370 B 6(a)(1). Waterworks owners may find it convenient to conduct tap sampling for water quality parameters at sites approved for coliform sampling.

(ii) Samples collected at the entry point(s) to the distribution system shall be from locations representative of each source after treatment. If a waterworks draws water from more than one source and the sources are combined before distribution, the waterworks owner must 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).

(b) Number of samples.

(i) Waterworks owners shall collect two tap samples for applicable water quality parameters during each monitoring period specified under subdivision B 6 b(2) through (6) of this section from the following number of sites.

System Size (# People Served)	# of Sites For Water Quality Parameters
>100,000	25
10,001-100,000	10
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
<100	1

(ii) Waterworks owners 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 B 6 b(2) of this section. During each monitoring period specified in subdivision B 6 b(3) through (6) of this section, waterworks owners shall collect one sample for each applicable water quality parameter at each entry point to the distribution system.

(2) Initial sampling. The owners of all 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 6 a(4)(a) of this section. The owners of all small and medium-size waterworks shall measure the applicable water quality parameters at the locations specified below during each six-month monitoring period specified in subdivision B 6 a(4)(c)

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of this section during which the waterworks exceeds the lead or copper action level.

- (a) At taps:
  - (i) pH;
  - (ii) alkalinity;
  - (iii) orthophosphate, when an inhibitor containing a phosphate compound is used;
  - (iv) silica, when an inhibitor containing a silicate compound is used;
  - (v) calcium;
  - (vi) conductivity; and
  - (vii) water temperature.

(b) At each entry point to the distribution system: all of the applicable parameters listed in subdivision B 6 b(2)(a) of this section.

(3) Monitoring after installation of corrosion control. The owner of any large waterworks which installs optimal corrosion control treatment pursuant to 12 VAC 5-590-420 C 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 6 a(4)(i) of this section. The owner of any small or medium-size waterworks which installs optimal corrosion control treatment shall conduct such monitoring during each six-month monitoring period specified in subdivision B 6 a(4)(b)(ii) in which the waterworks exceeds the lead or copper action level.

- (a) At taps, two samples for:
  - (i) pH;
  - (ii) alkalinity;
  - (iii) orthophosphate, when an inhibitor containing a phosphate compound is used;
  - (iv) silica, when an inhibitor containing a silicate compound is used;
  - (v) calcium, when calcium carbonate stabilization is used as part of corrosion control.
- (b) At each entry point to the distribution system, one sample every two weeks (bi-weekly) for:
  - (i) pH;
  - (ii) when alkalinity is adjusted as part of optimal corrosion control, a reading of the dosage rate of the chemical used to adjust alkalinity, and the alkalinity concentration; and
  - (iii) 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).

(4) Monitoring after the commissioner specifies water quality parameter values for optimal corrosion control. After the commissioner specifies the values for applicable water quality control parameters reflecting optimal corrosion control treatment under 12 VAC 5-590-420 C 1(f), the owners of all large waterworks shall measure the applicable water quality parameters in accordance with subdivision B 6 b(3) of this section during each monitoring period specified in subdivision B 6 a(4)(c) of this section. The owner of any small or medium-size waterworks shall conduct such monitoring during each monitoring period specified in subdivision B 6 a(4)(c) of this section in which the waterworks exceeds the lead or copper action level. The owner may take a confirmation sample for any water quality parameter value no later than three days after the first sample. If a confirmation sample is taken, the result must be averaged with the first sampling result and the average must be used for any compliance determinations under 12 VAC 5-590-420 C 1(g). The commissioner has discretion to delete results of obvious sampling errors from this calculation.

(5) Reduced monitoring.

(a) The owner of any 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 B 6 b(4) of this section shall continue monitoring at the entry point(s) to the distribution system as specified in subdivision B 6 b(3)(b) of this section. The owner of such waterworks may collect two tap samples for applicable water quality parameters from the following reduced number of sites during each six-month monitoring period.

Reduced # of Sites (# People Served)	System Size for Water Quality Parameters
>100,000	10
10,001 to 100,000	7
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
<100	1

(b) The owner of any waterworks that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the commissioner under subdivision C 1(f) of this section 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 this subdivision B 6 b(5)(a) of this section from every six months to

annually. Any waterworks that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the commissioner under 12 VAC 5-590-420 C 1(f) during three consecutive years of annual monitoring under this paragraph may reduce the frequency with which it collects the number of tap samples for applicable water quality parameters specified in subdivision B 6 a(5)(a) of this section from annually to every three years.

(c) The owner of a waterworks that conducts sampling annually shall collect these samples evenly throughout the year so as to reflect seasonal variability.

(d) The owner of any waterworks subject to reduced monitoring frequency that fails to operate within the range of values for the water quality parameters specified by the commissioner under 12 VAC 5-590-420 C 1(f) shall resume tap water sampling in accordance with the number and frequency requirements in subdivision B 6 b(4) of this section.

(6) Additional monitoring by waterworks owners. The results of any monitoring conducted in addition to the minimum requirements of this section shall be considered by the waterworks owner and the commissioner in making any determinations under this section or 12 VAC 5-590-420 C 1.

c. 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 on the basis of tap samples collected in accordance with subdivision B 6 of this section shall collect lead and copper water supply samples in accordance with the requirements regarding sample location, number of samples, and collection methods specified in subsection B (inorganic chemical sampling). The timing of sampling for lead and copper in water supplies shall be in accordance with subdivision B 6 c (2) and (3) of this section.

(b) Where the results of sampling indicate an exceedance of maximum permissible water supply levels established under 12 VAC 5-590-420 D 4, the commissioner may require that one additional sample be collected as soon as possible after the initial sample was taken (but not to exceed two weeks) at the same sampling point. If a commissioner required confirmation sample is taken for lead or copper, then the results of the initial and confirmation sample shall be averaged in determining compliance with the commissioner-specified maximum permissible levels. Any sample value below the detection limit shall be considered to be zero. Any value above the detection limit 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 waterworks exceeds tap action level. The owner of any waterworks which exceeds the lead or copper action level at the tap shall collect one water supply sample from each entry point to the distribution system within six months after the exceedance.

(3) Monitoring frequency after installation of water supply treatment. The owner of any waterworks which installs water supply treatment pursuant to 12 VAC 5-590-420 D 1 c shall collect an additional water supply sample from each entry point to the distribution system during two consecutive six-month monitoring periods by the deadline specified in 12 VAC 5-590-420 D 1 d.

(4) Monitoring frequency after the commissioner specifies maximum permissible water supply lead and copper levels or determines that water supply treatment is not needed.

(a) A waterworks owner shall monitor at the frequency specified below in cases where the commissioner specifies maximum permissible water supply lead and copper levels under 12 VAC 5-590-420 D 4 or determines that the owner is not required to install water supply treatment under 12 VAC 5-590-420 D 2(b).

(i) The owner of a waterworks using only groundwater shall collect samples once during the three-year compliance period in effect when the applicable commissioner determination under subdivision B 6 c(4)(a) of this section is made. Owners of such waterworks shall collect samples once during each subsequent compliance period.

(ii) The owner of a waterworks using surface water (or a combination of surface and groundwater) shall collect samples once during each year, the first annual monitoring period to begin on the date on which the applicable commissioner determination is made under subdivision B 6 c(4)(a) of this section.

(b) A waterworks owner is not required to conduct water supply sampling for lead and/or copper if the waterworks meets the action level for the specific contaminant in tap water samples during the entire water supply sampling period applicable to the waterworks under subdivision B 6 c(4)(a)(i) or (ii) of this section.

(5) Reduced monitoring frequency.

(a) The owner of a waterworks using only groundwater which demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible

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lead and/or copper concentrations specified by the commissioner in 12 VAC 5-590-420 D 4 during at least three consecutive compliance periods under subdivision B 6 c(4) of this section may reduce the monitoring frequency for lead and/or copper to once during each nine-year compliance cycle.

(b) The owner of a waterworks using surface water (or a combination of surface and ground waters) which demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the commissioner in 12 VAC 5-590-420 D 4 for at least three consecutive years may reduce the monitoring frequency in 12 VAC 5-590-370 B 6 c (4)(a) to once during each nine-year compliance cycle.

(c) A waterworks that uses a new water supply is not eligible for reduced monitoring for lead and/or copper until concentrations in samples collected from the new supply during three consecutive monitoring periods are below the maximum permissible lead and copper concentrations specified by the commissioner in 12 VAC 5-590-420 D 1 e.

7. Waterworks required to filter. The owner of a waterworks that uses a surface water source or a groundwater source under the direct influence of surface water and provides filtration treatment must monitor in accordance with this section beginning June 29, 1993, or when filtration is installed, whichever is later.

a. Turbidity measurements as required by 12 VAC 5-590-410 C shall be performed on representative samples of the filtered water every four hours (or more frequently) that the waterworks serves water to the public. A waterworks owner may substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a protocol approved by the division. For any waterworks using slow sand filtration or filtration treatment other than conventional treatment, direct filtration, or diatomaceous earth filtration, the division may reduce the sampling frequency to once per day if it determines that less frequent monitoring is sufficient to indicate effective filtration performance. For waterworks serving 500 or fewer persons, the division may reduce the turbidity sampling frequency to once per day, regardless of the type of filtration treatment used, if the division determines that less frequent monitoring is sufficient to indicate effective filtration performance.

b. The residual disinfectant concentration of the water entering the distribution system shall be monitored continuously, and the lowest value shall be recorded each day, except that if there is a failure in the continuous monitoring equipment, grab sampling every four hours may be conducted in lieu of continuous monitoring, but for no more than five

working days following the failure of the equipment, and owners of waterworks serving 3,300 or fewer persons may take grab samples in lieu of continuous monitoring on an ongoing basis at the frequencies each day prescribed below:

Waterworks Size by Population	Samples/Day*
500 or less	1
501 to 1,000	2
1,000 to 2,500	3
2,501 to 3,300	4

\*The day's samples cannot be taken at the same time. The sampling intervals are subject to division review and approval.

If at any time the residual disinfectant concentration falls below 0.2 mg/L in a waterworks using grab sampling in lieu of continuous monitoring, the waterworks owner shall take a grab sample every four hours until the residual disinfectant concentration is equal to or greater than 0.2 mg/L.

(1) The residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in subdivision A of this section, except that the division may allow a waterworks owner which uses both a surface water source or a groundwater source under direct influence of surface water, and a groundwater source to take disinfectant residual samples at points other than the total coliform sampling points if the division determines that such points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in 12 VAC 5-590-420 B may be measured in lieu of residual disinfectant concentration.

(2) If the division determines, based on site-specific considerations, that a waterworks has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions and that the waterworks is providing adequate disinfection in the distribution system, the requirements of subdivision B 7(1) of this section do not apply to that waterworks.

c. The following information on the samples taken in the distribution system in conjunction with total coliform monitoring pursuant to 12 VAC 5-590-420 B shall be reported monthly to the division by the waterworks 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 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 >500/mL;

(5) Number of instances where the residual disinfectant concentration is not measured and HPC is >500/mL.

(6) For the current and previous month the waterworks serves water to the public, the value of "V" in percent in the following formula:

$$V = \frac{c + d + e}{a + b} \times 100$$

where

a = the value in subdivision B 7 c(1) of this section,

b = the value in subdivision B 7 c(2) of this section,

c = the value in subdivision B 7 c(3) of this section,

d = the value in subdivision B 7 c(4) of this section,

e = the value in subdivision B 7 c(5) of this section,

(7) If the division determines, based on site-specific considerations, that a waterworks owner has no means for having a sample transported and analyzed for HPC by a certified laboratory within the requisite time and temperature conditions and that the waterworks is providing adequate disinfection in the distribution system, the requirements of subdivision B 7 b(1) of this section do not apply.

d. A waterworks owner need not report the data listed in 12 VAC 5-590-530 C 2 a if all data listed in 12 VAC 5-590-530 C 2 a through c remain on file at the waterworks and the division determines that the waterworks owner has submitted all the information required by 12 VAC 5-590-530 C 2 a through c for at least 12 months.

8. Operational. Waterworks owners may be required by the division to collect additional samples to provide quality control for any treatment processes that are employed.

C. Physical. All samples for turbidity analysis shall be taken at a representative entry point or points to the water distribution system unless otherwise specified. Turbidity samples shall be analyzed, at least once per day at all waterworks, that use surface water sources or groundwater sources under the direct influence of surface water.

D. Radiological. The frequency of radiological sampling shall be accordance with 12 VAC 5-590-400.

## 12 VAC 5-590-410. Determination of compliance.

For the purposes of determining compliance with a Primary Maximum Contaminant Level or action level, the following criteria shall be used:

A. Bacteriological results. Compliance with the Primary Maximum Contaminant Level for coliform bacteria shall be determined as specified in 12 VAC 5-590-380. Repeat samples shall be used as a basis for determining compliance with these regulations.

B. Organic and inorganic chemicals. When a sample exceeds an organic or inorganic chemical Primary Maximum Contaminant Level, three additional samples shall be collected and analyzed for that constituent within 30 calendar days. Compliance is then determined on the average of the four samples, rounded off to the same number of significant figures as the Primary Maximum Contaminant Level for the substance in question. Special compliance determinations for specific chemical contaminants are specified in subdivisions 1 through 4 of this subsection.

1. Fluoride. Compliance with the PMCL shall be determined based on each sampling point. If any sampling point is determined to be out of compliance, the entire system is deemed to be out of compliance.

2. Nitrate. When a sample exceeds the Primary Maximum Contaminant Level for nitrate, a second analysis shall be initiated within 24 hours. Compliance with the Primary Maximum Contaminant Level for nitrate shall be determined on the basis of the mean of two analyses.

3. Trihalomethanes. Compliance shall be determined based on a running annual average of quarterly samples taken in accordance with 12 VAC 5-590-370 B 2.

4. VOC's. Compliance shall be based on a running annual average of quarterly samples for each sampling point taken in accordance with 12 VAC 5-590-370 B 3. If one entry point sampling location is in violation, the entire waterworks is deemed to be in violation. If a waterworks has a distribution system separable from other parts of the distribution system with no physical interconnections, only that part of the waterworks that exceeds any PMCL for a VOC in Table 2.3 will be deemed in violation. The division may reduce the public notification requirement to that portion of the waterworks which is out of compliance. If any one sample result would cause the annual average to be exceeded, then the waterworks shall be deemed in violation immediately. For waterworks that have had their sampling frequency reduced, in accordance with 12 VAC 5-590-370 B 3, compliance shall be based on that one sample.

C. Turbidity. The requirements in subsection C of this section apply to filtered waterworks until June 29, 1993. The requirements in this section apply to unfiltered waterworks with surface water sources or groundwater sources under the direct influence of surface water that are required to install filtration equipment until June 29, 1993, or until filtration is installed, whichever is later. When a sample exceeds the PMCL for turbidity a confirmation sample shall be collected for analysis as soon as possible. In cases where a turbidimeter is required at the waterworks, the preferable resampling time is within one hour of the initial sampling. The repeat sample shall be the sample used for the purpose of calculating the monthly average. Compliance for public notification purposes shall be based on the monthly averages

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of the daily samples. However, public notification is also required if the average of samples taken on two consecutive days exceeds 5 NTU.

D. Radiological results (gross alpha, total radium and man-made radioactivity). Compliance with the radiological Primary Maximum Contaminant Levels shall be based on the annual average results. Primary Maximum Contaminant Levels are indicated in Table 2.5. Sampling for radiological analysis shall be in compliance with 12 VAC 5-590-400 A1 and A2. Furthermore, compliance shall be determined by rounding off results to the same number of significant figures as the Primary Maximum Contaminant Level for the substance in question.

**E. Lead and copper action levels.**

1. The lead action level is exceeded if the concentration of lead in more than 10% of tap water samples collected during any monitoring period conducted in accordance with 12 VAC 5-590-370 B 6 a is greater than 0.015 mg/L (i.e., if the "90th percentile" lead level is greater than 0.015 mg/L).

2. The copper action level is exceeded if the concentration of copper in more than 10% of tap water samples collected during any monitoring period conducted in accordance with 12 VAC 5-590-370 B 6 a is greater than 1.3 mg/L (i.e., if the "90th percentile" copper level is greater than 1.3 mg/L).

3. The 90th percentile lead and copper levels shall be computed as follows:

a. 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.

b. The number of samples taken during the monitoring period shall be multiplied by 0.9.

c. The contaminant concentration in the numbered sample yielded by the calculation in subdivision E 3 b of this subsection is the 90th percentile contaminant level.

d. For waterworks serving fewer than 100 people that collect five samples per monitoring period, the 90th percentile is computed by taking the average of the highest and second highest concentrations.

E. F. All analyses for PMCL and action level compliance determinations shall be consistent with current Environmental Protection Agency Regulations found at 40 CFR Part 141 (1991).

**12 VAC 5-590-420. Treatment technique requirements.**

A. Beginning June 29, 1993, the filtration and disinfection provisions of this section are required treatment techniques

for any waterworks supplied by a surface water source and waterworks supplied by a groundwater source under the direct influence of surface water. Prior to that date, waterworks are governed by the disinfection requirements of 12 VAC 5-590-500. In addition, this section establishes treatment technique requirements in lieu of PMCL's for the following contaminants: *Giardia lamblia*, viruses, heterotrophic bacteria (HPC), *Legionella*, and turbidity. Each waterworks with a surface water source or a groundwater source under the direct influence of surface water shall provide treatment of that source water that complies with these treatment technique requirements. The treatment technique requirements consist of installing and properly operating water treatment processes which reliably achieve:

1. At least 99.9% (3-log) removal and/or inactivation of *Giardia lamblia* cysts between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer; and

2. At least 99.99% (4-log) removal and/or inactivation of viruses between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer.

B. A waterworks using a surface water source or a groundwater source under the direct influence of surface water is considered to be in compliance with the requirements of subsection A of this section if it meets the following disinfection and filtration requirements:

1. Disinfection. Waterworks with a surface water source or a groundwater source under the direct influence of surface water must provide disinfection treatment in accordance with this section by June 29, 1993.

a. The disinfection treatment must be sufficient to ensure that the total treatment processes of that waterworks achieve at least 99.9% (3-log) inactivation and/or removal of *Giardia lamblia* cysts and at least 99.99% (4-log) inactivation and/or removal of viruses.

b. The residual disinfectant concentration in the water entering the distribution system cannot be less than 0.2 mg/L for more than four hours.

c. The residual disinfectant concentration in the distribution system, measured as total chlorine, combined chlorine, or chlorine dioxide cannot be undetectable in more than 5.0% of the samples each month, for any two consecutive months that the waterworks serves water to the public. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500/mL, measured as heterotrophic plate count (HPC) is deemed to have a detectable disinfectant residual for purposes of determining compliance with this requirement. Thus, the value "V" in percent in the following formula cannot exceed 5.0% in one month, for any two consecutive months.

$$V = \frac{c + d + e}{a + b} \times 100$$

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 >500/mL; and

e = number of instances where the residual disinfectant concentration is not measured and HPC is >500/mL.

d. The division may determine, based on site-specific considerations, that a waterworks 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, that the requirements of subdivision B 1 c of this section does not apply.

2. Filtration. (Also see 12 VAC 5-590-880.) All waterworks that use a surface water source or a groundwater source under the direct influence of surface water shall provide filtration treatment by June 29, 1993, by using one of the following methods:

a. Conventional filtration or direct filtration.

(1) The turbidity level of representative samples of a waterworks' filtered water shall be less than or equal to 0.5 NTU in at least 95% of the measurements taken each month, except that if the division determines that the system is capable of achieving at least 99.9% removal (3-log) and/or inactivation of *Giardia lamblia* cysts at some turbidity level higher than 0.5 NTU in at least 95% of the measurements taken each month, the division may substitute this higher turbidity limit for that waterworks. However, in no case may the division approve a turbidity limit that allows more than 1 NTU in more than 5.0% of the samples taken each month.

(2) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed 5 NTU.

b. Slow sand filtration.

(1) The turbidity level of representative samples of a waterworks' filtered water must be less than or equal to 1 NTU in at least 95% of the measurements taken each month, except that if the division determines there is no significant interference with disinfection

at a higher turbidity level, the division may substitute this higher turbidity limit for that waterworks.

(2) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed 5 NTU.

c. Diatomaceous earth filtration.

(1) The turbidity level of representative samples of a waterworks' filtered water shall be less than or equal to 1 NTU in at least 95% of the measurements taken each month.

(2) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed 5 NTU.

d. Other filtration technologies. A waterworks owner may use a filtration technology not listed in subdivisions 2 a through c of this subsection if the owner demonstrates to the division (by pilot plant studies or other means) that the alternative filtration technology, in combination with disinfection treatment, achieves 99.9% removal (3-log) and/or inactivation of *Giardia lamblia* cysts and 99.99% removal (4-log) and/or inactivation of viruses. For a waterworks owner that makes this demonstration, the requirements of subdivision B 2 b of this section also apply.

e. Each waterworks using a surface water source or groundwater source under the direct influence of surface water shall be operated by licensed operators of the appropriate classification as per the Virginia Board for Waterworks and Wastewater Works Operators Regulations (18 VAC 155-20-10 et seq.).

f. If the division has determined that a waterworks has a surface water source or a groundwater source under the direct influence of surface water, filtration is required. The waterworks shall provide disinfection during the interim before filtration is installed as follows:

(1) The residual disinfectant concentration in the distribution system cannot be less than 2.0 mg/L for more than four hours.

(2) The waterworks owner shall issue continuing boil water notices through the public notification procedure in 12 VAC 5-590-540 until such time as the required filtration equipment is installed.

(3) As an alternative to (1) and (2) above, the waterworks owner may demonstrate that the source can meet the appropriate C-T values shown in Appendix L and be considered to satisfy the requirements for 99.9% removal of *Giardia* cysts and virus, respectively. In addition, the waterworks owner must comply with the following:

(a) Justify that other alternative sources of supply meeting these regulations are not immediately available.

(b) Analysis of the source is performed quarterly for the contaminants listed in Tables

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2.2, 2.3, and 2.4. The primary maximum contaminant levels shall not be exceeded.

(c) Daily turbidity monitoring and maintenance of the turbidity level not to exceed 5 NTU.

(d) MPN analysis of the raw water based on the minimum sample frequency chart below:

Population Served	Coliform Samples/Week
<500	1
501-3,300	2
3,300-10,000	3
10,001-25,000	4
>25,000	5

Note: Must be taken on separate days.

(e) Bacteriological sampling of the distribution system at a frequency of twice that required by Table 2.1.

## C. Lead and copper corrosion control techniques.

1. *Corrosion control treatment requirements.* The owners of all community and nontransient noncommunity waterworks shall install and operate optimum corrosion control treatment by completing the corrosion control treatment requirements described below which are applicable to such waterworks owners under subdivision C 2 of this section.

a. *Waterworks owners proposal regarding corrosion control treatment.* Based upon the results of lead and copper tap monitoring and water quality parameter monitoring, the owners of small and medium-size waterworks exceeding the lead or copper action level shall propose installation of one or more of the corrosion control treatments listed in subdivision C 1 c(1) of this section which the waterworks owner believes constitutes optimal corrosion control for that waterworks. The commissioner may require the waterworks owner to conduct additional water quality parameter monitoring in accordance with 12 VAC 5-590-370 B 6 b(2) of this section to assist the commissioner in reviewing the proposal.

b. *Applicability of studies of corrosion control treatment (applicable to small and medium-size waterworks).* The commissioner may require the owner of any small or medium-size waterworks that exceeds the lead or copper action level to perform corrosion control studies under subdivision C 1 c of this section to identify optimal corrosion control treatment for the waterworks.

### c. Corrosion control studies.

(1) The owner of any waterworks required by the commissioner 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 or silicate based corrosion inhibitor at a concentration sufficient to maintain an effective corrosion inhibitor residual concentration in all test tap samples.

(2) The waterworks owner shall evaluate each of the corrosion control treatments using either pipe rig/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 waterworks owner shall measure the following water quality parameters in any tests conducted under this paragraph before and after evaluating the corrosion control treatments listed above:

(a) Lead;

(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);

(i) Water temperature.

(4) The waterworks 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; and/or

(b) Data and documentation demonstrating that the waterworks 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 waterworks 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 waterworks owner shall propose to the field office in writing, the treatment option that the corrosion control studies indicate constitutes optimal corrosion control treatment for that waterworks. The owner shall provide a rationale for its recommendation along with all supporting documentation specified in subdivision C 1 c(1) through (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 C 1 c of this section and a waterworks' owner's proposed treatment alternative, the commissioner shall either approve the corrosion control treatment option recommended by the owner, or designate alternative corrosion control treatment(s) from among those listed in subdivision C 1 c(1) of this section. When approving optimal treatment the commissioner 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 shall notify the waterworks owner of its determination on optimal corrosion control treatment in writing and explain the basis for this determination. If the commissioner requests additional information to aid a review, the owner shall provide the information.

e. Installation of optimal corrosion control. Each waterworks owner shall properly install and operate throughout the waterworks the optimal corrosion control treatment approved by the commissioner under subdivision C 1 d of this section and under 12 VAC 5-590-190.

f. Commissioner's review of treatment and specification of optimal water quality control parameters.

(1) The commissioner shall evaluate the results of all lead and copper tap samples and water quality parameter samples submitted by the waterworks owner and determine whether the owner has properly installed and operated the optimal corrosion control treatment approved by the commissioner in subdivision C 1 d of this section. Upon reviewing the results of tap water and water quality parameter monitoring by the owner, both before and after the waterworks installs optimal corrosion control treatment, the commissioner 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 value shall be equal to or greater than 7.0, unless the commissioner determines that meeting a pH level of 7.0 is not technologically feasible or is not necessary for the waterworks owner to optimize corrosion control;

(c) If a corrosion inhibitor is used, 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 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 optimal corrosion control treatment, a minimum concentration or a range of concentrations for alkalinity, measured at each entry point to the distribution system and in all tap samples;

(e) if calcium carbonate stabilization is used as part of corrosion control, 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 shall be those that the commissioner determines to reflect optimal corrosion control treatment for the waterworks. The commissioner may designate values for additional water quality control parameters determined by the commissioner to reflect optimal corrosion control for the waterworks. The commissioner shall notify the waterworks owner in writing of these determinations and explain the basis for its decisions.

g. Continued operation and monitoring. The owners of all waterworks shall maintain water quality parameter values at or above minimum values or within ranges designated by the commissioner under subdivision C 1 f of this section in each sample collected under 12 VAC 5-590-370 B 6 b(4). If the water quality parameter value of any sample is below the minimum value or outside the range designated by the commissioner, then the waterworks is out of compliance with this paragraph. As specified in 12 VAC 5-590-370 B 6 b(4), the waterworks owner may take a confirmation sample for any water quality parameter value no later than three days after the first sample. If a confirmation sample is taken, the result must be averaged with the first sampling result and the average must be used for any compliance determinations under this paragraph. The commissioner has the discretion to delete results of obvious sampling errors from this calculation.

h. Modification of the commissioner's treatment decisions. Upon his own initiative or in response to a request by a waterworks owner or other interested party, the commissioner may modify its determination

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of the optimal corrosion control treatment under 12 VAC 5-590-420 C 1 d or optimal water quality control parameters under 12 VAC 5-590-420 C 1 f. 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 may modify the determination where it is concluded that such 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 decision, and provide an implementation schedule for completing the treatment modifications.

### 2. Corrosion control treatment steps.

a. Waterworks owners shall complete the applicable corrosion control treatment requirements described in 12 VAC 5-590-420 C 1 by the deadlines established in this section.

(1) The owner of a large waterworks (serving >50,000 persons) shall complete the corrosion control treatment steps specified in 12 VAC 5-590-420 C 2 d, unless the owner is deemed to have optimized corrosion control under 12 VAC 5-590-420 C 2 b(2) or 12 VAC 5-590-420 C 2 b(3).

(2) The owner of a small waterworks (serving <3300 persons) and a medium-size waterworks (serving >3,300 and <50,000 persons) shall complete the corrosion control treatment steps specified in 12 VAC 5-590-420 C 2 e, unless the owner is deemed to have optimized corrosion control under 12 VAC 5-590-420 C 2 b(1) through (3).

b. A waterworks owner is deemed to have optimized corrosion control and is not required to complete the applicable corrosion control treatment steps identified in this section if the waterworks satisfies one of the following criteria:

(1) The owner of a small or medium-size waterworks is deemed to have optimized corrosion control if the waterworks meets the lead and copper action levels during each of two consecutive six-month monitoring periods conducted in accordance with 12 VAC 5-590-370 B 6 a.

(2) Any waterworks owner may be deemed by the commissioner to have optimized corrosion control treatment if the owner demonstrates to the satisfaction of the commissioner that the owner has conducted activities equivalent to the corrosion control steps applicable to such waterworks under this section. If the commissioner makes this determination, 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 optimal corrosion control in accordance with 12 VAC 5-590-420 C 1 f. A waterworks owner shall provide the

commissioner with the following information in order to support a determination under this paragraph:

(a) The results of all test samples collected for each of the water quality parameters in 12 VAC 5-590-420 C 1 c(3).

(b) A report explaining the test methods used by the waterworks owner to evaluate the corrosion control treatments listed in 12 VAC 5-590-420 C 1 c(1), 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 12 VAC 5-590-370 B 6 a at least once every six months for one year after corrosion control has been installed.

(3) Any waterworks is deemed to have optimized corrosion control if the owner submits results of tap water monitoring conducted in accordance with 12 VAC 5-590-370 B 6 a and source water monitoring conducted in accordance with 12 VAC 5-590-370 B 6 c that demonstrates for two consecutive six-month monitoring periods that the difference between the 90th percentile tap water lead level computed under 12 VAC 5-590-410 E, and the highest source water lead concentration, is less than the P Q L for lead (0.005 mg/l).

c. The owner of any small or medium-size waterworks that is required to complete the corrosion control steps due to the exceedance of the lead or copper action level may cease completing the treatment steps whenever the waterworks meets both action levels during each of two consecutive monitoring periods conducted pursuant to 12 VAC 5-590-370 B 6 a and submits the results to the field office. If any such waterworks thereafter exceeds the lead or copper action level during any monitoring period, the owner shall recommence completion of the applicable treatment steps, beginning with the first treatment step which was not previously completed in its entirety. The commissioner may require the owner to repeat treatment steps previously completed where the commissioner determines that this is necessary to properly implement the treatment requirements of this section. The commissioner shall notify the owner in writing of such a determination and explain the basis for its decision. The requirement for the owner of any small- or medium-sized waterworks to implement corrosion control treatment steps in accordance with subdivision 2 e of this subsection (including waterworks deemed to have optimized corrosion

control under subdivision 2 b (1) of this subsection) is triggered whenever any small- or medium-sized waterworks exceeds the lead or copper action level.

d. Treatment steps and deadlines for large waterworks. Except as provided in 12 VAC 5-590-420 C 2 b(2) and 12 VAC 5-590-420 C 2 b(3), owners of large waterworks shall complete the following corrosion control treatment steps (described in the referenced portions of 12 VAC 5-590-420 C 1 and 12 VAC 5-590-370 B 6 a by the indicated dates.

(1) Step 1: The waterworks owner shall conduct initial monitoring (12 VAC 5-590-370 B 6 a(4)(a) and 12 VAC 5-590-370 B 6 b(2)) during two consecutive six-month monitoring periods by January 1, 1993.

(2) Step 2: The waterworks owner shall complete corrosion control studies (12 VAC 5-590-420 C 1 c) and submit the study and recommendations to the commissioner by July 1, 1994.

(3) Step 3: The commissioner shall approve optimal corrosion control treatment (12 VAC 5-590-420 C 1 d) by January 1, 1995.

(4) Step 4: The waterworks owner shall install optimal corrosion control treatment (12 VAC 5-590-420 C 1 e) by January 1, 1997.

(5) Step 5: The waterworks owner shall complete follow-up sampling (12 VAC 5-590-370 B 6 a(4)(b) and 12 VAC 5-590-370 B 6 b(3)) by January 1, 1998.

(6) Step 6: The commissioner shall review installation of treatment and designate optimal water quality control parameters (subdivision C 1 f of this section) by July 1, 1998.

(7) Step 7: The waterworks owner shall operate the waterworks in compliance with the commissioner-specified optimal water quality control parameters (12 VAC 5-590-420 C 1 g) and continue to conduct tap sampling (12 VAC 5-590-370 B 6 a(4)(c) and 12 VAC 5-590-370 B 6 b(4)).

e. Treatment steps and deadlines for small and medium-size waterworks. Except as provided in 12 VAC 5-590-420 C 2 b, owners of small- and medium-size waterworks shall complete the following corrosion control treatment steps (described in the referenced portions of 12 VAC 5-590-420 C 1, 12 VAC 5-590-370 B 6 a and 12 VAC 5-590-370 B 6 b) by the indicated time periods.

(1) Step 1: The waterworks owner shall conduct initial tap sampling (12 VAC 5-590-370 B 6 a(4)(a) and 12 VAC 5-590-370 B 6 b(2)) until the waterworks either exceeds the lead or copper action level or becomes eligible for reduced monitoring under 12 VAC 5-590-370 B 6 a(4)(d). The owner of a waterworks exceeding the lead or copper action level shall propose optimal corrosion control treatment (12 VAC 5-590-420 C

1 a) within six months after it exceeds one of the action levels.

(2) Step 2: Within 12 months after a waterworks exceeds the lead or copper action level, the commissioner may require the waterworks owner to perform corrosion control studies (12 VAC 5-590-420 C 1 b). If the commissioner does not require the owner to perform such studies, the commissioner shall specify optimal corrosion control treatment (12 VAC 5-590-420 C 1 d) within the following timeframes:

(a) For medium-size waterworks, within 18 months after such waterworks exceeds the lead or copper action level,

(b) For small waterworks, within 24 months after such waterworks exceeds the lead or copper action level.

(3) Step 3: If the commissioner requires a waterworks owner to perform corrosion control studies under Step 2, the waterworks owner shall complete the studies (12 VAC 5-590-420 C 1 c) and submit the study and recommendations to the commissioner within 18 months after the commissioner requires that such studies be conducted.

(4) Step 4: If the waterworks has performed corrosion control studies under Step 2, the commissioner shall designate optimal corrosion control treatment (12 VAC 5-590-420 C 1 d) within six months after completion of Step 3.

(5) Step 5: The waterworks shall install optimal corrosion control treatment (12 VAC 5-590-420 C 1 e) within 24 months after the commissioner designates such treatment.

(6) Step 6: The waterworks owner shall complete follow-up sampling (12 VAC 5-590-370 B 6 a(4)(b) and 12 VAC 5-590-370 B 6 b(3)) within 36 months after the commissioner designates optimal corrosion control treatment.

(7) Step 7: The commissioner shall review the waterworks owner's installation of treatment and designate optimal water quality control parameters (12 VAC 5-590-420 C 1 f) within six months after completion of Step 6.

(8) Step 8: The waterworks owner shall operate in compliance with the commissioner designated optimal water quality control parameters (12 VAC 5-590-420 C 1 g) and continue to conduct tap sampling (12 VAC 5-590-370 B 6 a(4)(c) and 12 VAC 5-590-370 B 6 b(4)).

D. Water supply (source water) treatment requirements for lead and copper. The owner of any waterworks exceeding the lead or copper action level shall complete the applicable water supply monitoring and treatment requirements (described in the referenced portions of 12 VAC 5-590-420 D

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2, and in 12 VAC 5-590-370 B 6 a, and 12 VAC 5-590-370 B 6 c) by the following deadlines.

1. Deadlines for completing water supply treatment steps.

a. Step 1: The owner of a waterworks exceeding the lead or copper action level shall complete lead and copper water supply monitoring (12 VAC 5-590-370 B 6 c(2)) and make a treatment proposal to the appropriate field office within six months after exceeding the lead or copper action level.

b. Step 2: The commissioner shall make a determination regarding the need for water supply treatment (12 VAC 5-590-420 D 2 b) within six months after submission of monitoring results under step 1.

c. Step 3: If the commissioner requires installation of water supply treatment, the waterworks owner shall install the treatment (12 VAC 5-590-420 D 3) within 24 months after completion of step 2.

d. Step 4: The waterworks owner shall complete follow-up tap water monitoring (12 VAC 5-590-370 B 6 a(4)(b)) and water supply lead and copper monitoring (12 VAC 5-590-370 B 6 c(3)) within 36 months after completion of step 2.

e. Step 5: The commissioner shall review the waterworks owner's installation and operation of water supply treatment and specify maximum permissible water supply lead and copper levels (12 VAC 5-590-420 D 4) within six months after completion of step 4.

f. Step 6: The waterworks owner shall operate in compliance with the commissioner-specified maximum permissible lead and copper water supply levels (12 VAC 5-590-420 D 4) and continue water supply monitoring (12 VAC 5-590-370 B 6 c(4)(a)).

2. Description of water supply treatment requirements.

a. Waterworks treatment recommendation. The owner of any waterworks which exceeds the lead or copper action level shall propose in writing to the appropriate field office, the installation and operation of one of the water supply treatments listed in 12 VAC 5-590-420 D 2 b. An owner may propose that no treatment be installed based upon a demonstration that water supply treatment is not necessary to minimize lead and copper levels at users' taps.

b. Commissioner's determination regarding water supply treatment. The commissioner shall complete an evaluation of the results of all water supply samples submitted by the waterworks owner to determine whether water supply treatment is necessary to minimize lead or copper levels in water delivered to users' taps. If the division determines that treatment is needed, the commissioner shall either require installation and operation of the water supply treatment recommended by the waterworks (if any) or require the installation and operation of another water supply treatment from among the following: ion exchange, reverse osmosis, lime softening or

coagulation/filtration. If the commissioner requests additional information to aid in the review, the waterworks shall provide the information by the date specified by the commissioner in the request. The commissioner shall notify the waterworks in writing of the determination and set forth the basis for the decision.

3. Installation of water supply treatment. Each waterworks owner shall properly install and operate the water supply treatment designated by the commissioner under 12 VAC 5-590-420 D 2 b.

4. Commissioner's review of water supply treatment and specification of maximum permissible water supply lead and copper levels. The commissioner shall review the water supply samples taken by the waterworks owner both before and after the waterworks owner installs water supply treatment, and determine whether the owner has properly installed and operated the water supply treatment designated by the commissioner. Based upon the review, the commissioner shall designate the maximum permissible lead and copper concentrations for finished water entering the distribution system. Such levels shall reflect the contaminant removal capability of the treatment properly operated and maintained. The commissioner shall notify the owner in writing and explain the basis for the decision.

5. Continued operation and maintenance. Each waterworks shall be operated to maintain lead and copper levels below the maximum permissible concentrations designated by the commissioner at each sampling point monitored in accordance with 12 VAC 5-590-370 B 6 c. The waterworks is out of compliance with this subdivision if the level of lead or copper at any sampling point is greater than the maximum permissible concentration designated by the commissioner.

6. Modification of the commissioner's treatment decisions. Upon his own initiative or in response to a request by a waterworks owner or other interested party, the commissioner may modify its determination of the water supply treatment under 12 VAC 5-590-420 D 2 b, or may modify the maximum permissible lead and copper concentrations for finished water entering the distribution system under 12 VAC 5-590-420 D 4. 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 may modify the determination where he concludes that such change is necessary to ensure that the waterworks continues to minimize lead and copper concentrations in water supplies. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the commissioner's decision, and provide an implementation schedule for completing the treatment modifications.

E. Lead service line replacement requirements.

1. Owners of waterworks that fail to meet the lead action level in tap samples taken pursuant to 12 VAC 5-590-370 B 6 a(4)(b), after installing corrosion control and/or

water supply treatment (whichever sampling occurs later), shall replace lead service lines in accordance with the requirements of this section. If a waterworks is in violation of 12 VAC 5-590-420 C 2 or 12 VAC 5-590-420 D for failure to install water supply or corrosion control treatment, the commissioner 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 12 VAC 5-590-370 B 6 a(4)(b) has passed.

2. A waterworks 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 waterworks owner shall identify the initial number of lead service lines in its distribution system based upon a materials evaluation, including the evaluation required under 12 VAC 5-590-370 B 6 a(1)(a). The first year of lead service line replacement shall begin on the date the action level was exceeded in tap sampling referenced in 12 VAC 5-590-420 E 1.

3. A waterworks owner is not required to replace an individual lead service line if the lead concentration in all service line samples from that line, taken pursuant to 12 VAC 5-590-370 B 6 a(2)(c), is less than or equal to 0.015 mg/L.

4. A waterworks owner shall replace the entire service line (up to the building inlet) unless the owner demonstrates to the satisfaction of the commissioner under 12 VAC 5-590-420 E 5 that it controls less than the entire service line. In such cases, the owner shall replace the portion of the line which the commissioner determines is under the owner's control. The owner shall notify the user served by the line that the waterworks owner will replace the portion of the service line under the waterworks owner's control and shall offer to replace the building owner's portion of the line, but is not required to bear the cost of replacing the building owner's portion of the line. For buildings where only a portion of the lead service line is replaced, the waterworks owner shall inform the resident(s) that the waterworks owner will collect a first flush tap water sample after partial replacement of the service line is completed if the resident(s) so desire. In cases where the resident(s) accept the offer, the waterworks owner shall collect the sample and report the results to the resident(s) within 14 days following partial lead service line replacement.

5. A waterworks owner is presumed to control the entire lead service line (up to the building inlet) unless the owner demonstrates to the satisfaction of the commissioner, in a letter submitted under 12 VAC 5-590-530 D 5 d, that the owner does not have any of the following forms of control over the entire line (as defined by state statutes, municipal ordinances, public service contracts or other applicable legal authority): authority to set standards for construction, repair, or maintenance of the line, authority to replace, repair, or maintain the service line, or ownership of the service line. The

commissioner shall review the information supplied by the owner and determine whether the owner controls less than the entire service line and, in such cases, shall determine the extent of the waterworks owner's control. The commissioner's determination shall be in writing and explain the basis for the decision.

6. The commissioner shall require a waterworks owner to replace lead service lines on a shorter schedule than that required by this section, taking into account the number of lead service lines in the waterworks, where such a shorter replacement schedule is feasible. The commissioner shall make this determination in writing and notify the owner of the findings within 6 months after the waterworks is triggered into lead service line replacement based on monitoring referenced in 12 VAC 5-590-420 E 1.

7. Any waterworks owner may cease replacing lead service lines whenever first draw tap samples collected pursuant to 12 VAC 5-590-370 B 6 a(2)(b) meet the lead action level during each of two consecutive monitoring periods and the owner submits the results to the appropriate field office. If the first draw tap samples collected in any such waterworks thereafter exceeds the lead action level, the owner shall recommence replacing lead service lines, pursuant to 12 VAC 5-590-420 E 2.

8. To demonstrate compliance with 12 VAC 5-590-420 E 1 through E 4, a waterworks owner shall report to the appropriate field office the information specified in 12 VAC 5-590-530 D 5.

F. Lead public education requirements. The owner of a waterworks that exceeds the lead action level based on tap water samples collected in accordance with 12 VAC 5-590-370 B 6 a shall deliver the public education materials contained in 12 VAC 5-590-420 F 1 and F 2 in accordance with the requirements in 12 VAC 5-590-420 F 3.

1. Content of written materials. A waterworks owner shall include the following text in all of the printed materials distributed through the lead public education program. Any additional information presented by the owner shall be consistent with the information below and be in plain English that can be understood by laypersons.

a. Introduction. The United States Environmental Protection Agency (EPA) and (insert name of waterworks) are concerned about lead in your drinking water. Although most homes have very low levels of lead in their drinking water, some homes in the community have lead levels above the EPA action level of 15 parts per billion (ppb), or 0.015 milligrams of lead per liter of water (mg/L). Under Federal law we are required to have a program in place to minimize lead in your drinking water by (insert date when corrosion control will be completed for your waterworks). This program includes corrosion control treatment, source water treatment, and public education. We are also required to replace each lead service line that we control if the line contributes lead concentrations of more than 15 ppb after we have

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completed the comprehensive treatment program. If you have any questions about how we are carrying out the requirements of the lead regulation please give us a call at (insert waterworks phone number). This brochure explains the simple steps you can take to protect you and your family by reducing your exposure to lead in drinking water.

b. **Health effects of lead.** Lead is a common metal found throughout the environment in lead-based paint, air, soil, household dust, food, certain types of pottery porcelain and pewter, and water. Lead can pose a significant risk to your health if too much of it enters your body. Lead builds up in the body over many years and can cause damage to the brain, red blood cells and kidneys. The greatest risk is to young children and pregnant women. Amounts of lead that will not hurt adults can slow down normal mental and physical development of growing bodies. In addition, a child at play often comes into contact with sources of lead contamination — like dirt and dust — that rarely affect an adult. It is important to wash children's hands and toys often, and to try to make sure they only put food in their mouths.

c. **Lead in drinking water.**

(1) Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water. The EPA estimates that drinking water can make up 20% or more of a person's total exposure to lead.

(2) Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and household plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome plated brass faucets, and in some cases, pipes made of lead that connect your house to the water main (service lines). In 1986, Congress banned the use of lead solder containing greater than 0.2% lead, and restricted the lead content of faucets, pipes and other plumbing materials to 8.0%.

(3) When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into your drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon after returning from work or school, can contain fairly high levels of lead.

d. **Steps you can take in the home to reduce exposure to lead in drinking water.**

(1) Despite our best efforts mentioned earlier to control water corrosivity and remove lead from the

water supply, lead levels in some homes or buildings can be high. To find out whether you need to take action in your own home, have your drinking water tested to determine if it contains excessive concentrations of lead. Testing the water is essential because you cannot see, taste, or smell lead in drinking water. Some local laboratories that can provide this service are listed at the end of this booklet. (The waterworks owners should contact the Division of Consolidated Laboratory Service at (804) 786-3411 for a list of certified laboratories in their area). For more information on having your water tested, please call (insert phone number of waterworks).

(2) If a water test indicates that the drinking water drawn from a tap in your home contains lead above 15 ppb, then you should take the following precautions:

(a) Let the water run from the tap before using it for drinking or cooking any time the water in a faucet has gone unused for more than six hours. The longer water resides in your home's plumbing the more lead it may contain. Flushing the tap means running the cold water faucet until the water gets noticeably colder, usually about 15-30 seconds. If your house has a lead service line to the water main, you may have to flush the water for a longer time, perhaps one minute, before drinking. Although toilet flushing or showering flushes water through a portion of your home's plumbing system, you still need to flush the water in each faucet before using it for drinking or cooking. Flushing tap water is a simple and inexpensive measure you can take to protect your family's health. It usually uses less than one or two gallons of water and costs less than (insert a cost estimate based on flushing two times a day for 30 days) per month. To conserve water, fill a couple of bottles for drinking water after flushing the tap, and whenever possible use the first flush water to wash the dishes or water the plants. If you live in a high-rise building, letting the water flow before using it may not work to lessen your risk from lead. The plumbing systems have more, and sometimes larger pipes than smaller buildings. Ask your landlord for help in locating the source of the lead and for advice on reducing the lead level.

(b) Try not to cook with, or drink water from the hot water tap. Hot water can dissolve more lead more quickly than cold water. If you need hot water, draw water from the cold tap and heat it on the stove or microwave.

(c) Remove loose lead solder and debris from the plumbing materials installed in newly constructed homes, or homes in which the plumbing has recently been replaced, by removing the faucet strainers from all taps and running the water from 3 to 5 minutes. Thereafter, periodically remove the strainers and flush out any debris that has accumulated over time.

(d) If your copper pipes are joined with lead solder that has been installed illegally since it was banned in 1986, notify the plumber who did the work and request that he or she replace the lead solder with lead-free solder. Lead solder looks dull gray, and when scratched with a key looks shiny. In addition, notify the local building official in your city or county.

(e) Determine whether or not the service line that connects your home or apartment to the water main is made of lead. The best way to determine if your service line is made of lead is by either hiring a licensed plumber to inspect the line or by contacting the plumbing contractor who installed the line. You can identify the plumbing contractor by checking your localities' record of building permits which should be maintained in the files of the (insert name of department that issues building permits). A licensed plumber can at the same time check to see if your home's plumbing contains lead solder, lead pipes, or pipe fittings that contain lead. The waterworks that delivers water to your home should also maintain records of the materials located in the distribution system. If the service line that connects your dwelling to the water main contributes more than 15 ppb to drinking water, after our comprehensive treatment program is in place, we are required to replace the line. Since the line is only partially controlled by the (insert name of the city, county, or waterworks that controls the line), we are required to provide you with information on how to replace your portion of the service line, and offer to replace that portion of the line at your expense and take a follow-up tap water sample within 14 days of the replacement. Acceptable replacement alternatives include copper, steel, iron, and plastic pipes and must comply with local plumbing codes.

(f) Have an electrician check your wiring. If grounding wires from the electrical system are attached to your pipes, corrosion may be greater. Check with a licensed electrician or your local electrical code to determine if your wiring can be grounded elsewhere. DO NOT attempt to change the wiring yourself

because improper grounding can cause electrical shock and fire hazards.

(3) The steps described above will reduce the lead concentrations in your drinking water. However, if a water test indicates that the drinking water coming from your tap contains lead concentrations in excess of 15 ppb after flushing, or after we have completed our actions to minimize lead levels, then you may want to take the following additional measures.

(a) Purchase or lease a home treatment device. Home treatment devices are limited in that each unit treats only the water that flows from the faucet to which it is connected, and all of the devices require periodic maintenance and replacement. Devices such as reverse osmosis systems or distillers can effectively remove lead from your drinking water. Some activated carbon filters may reduce lead levels at the tap, however all lead reduction claims should be investigated. Be sure to check the actual performance of a specific home treatment device before and after installing the unit.

(b) Purchase bottled water for drinking and cooking.

(4) You can consult a variety of sources for additional information. Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead. State and local government agencies that can be contacted include:

(a) (Insert the name of the waterworks) at (insert phone number) can provide you with information about your community's waterworks and a list of local laboratories that have been certified by Division of Consolidated Laboratory Services for testing water quality.

(b) (Insert the name of city or county department that issues building permits) at (insert phone number) can provide you with information about building permit records that should contain the names of plumbing contractors that plumbed your home.

(c) The Medical Director of (Insert the name of the city or county) Health Department, and the Virginia Department of Health Division of Maternal and Child Health, Lead Programs Director at 1-800-523-4019 can provide you with information about the health effects of lead and how you can have your child's blood tested.

(5) The following is a list of some state-approved laboratories in your area that you can call to have your water tested for lead. (Insert

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names and phone numbers of at least two laboratories.)

2. Content of broadcast materials. A waterworks owner shall include the following information in all public service announcements submitted under the lead public education program to television and radio stations for broadcasting:

a. Why should everyone want to know the facts about lead and drinking water? Because unhealthy amounts of lead can enter drinking water through the plumbing in your home. That's why I urge you to do what I did. I had my water tested for (insert free or \$ per sample). You can contact the (insert the name of the waterworks) for information on testing and on simple ways to reduce your exposure to lead in drinking water.

b. To have your water tested for lead, or to get more information about this public health concern, please call (insert the phone number of the waterworks).

3. Delivery of a public education program.

a. In communities where a significant proportion of the population speaks a language other than English, public education materials shall be communicated in the appropriate language(s).

b. The owner of a community waterworks that fails to meet the lead action level on the basis of tap water samples collected in accordance with 12 VAC 5-590-370 B 6 a shall, within 60 days:

(1) Insert notices in each customer's water utility bill containing the information in 12 VAC 5-590-420 F 1, along with the following alert on the water bill itself in large print: "SOME HOMES IN THIS COMMUNITY HAVE ELEVATED LEAD LEVELS IN THEIR DRINKING WATER. LEAD CAN POSE A SIGNIFICANT RISK TO YOUR HEALTH. PLEASE READ THE ENCLOSED NOTICE FOR FURTHER INFORMATION."

(2) Submit the information in 12 VAC 5-590-420 F 1 to the editorial departments of the major daily and weekly newspapers circulated throughout the community.

(3) Deliver pamphlets and/or brochures that contain the public education materials in 12 VAC 5-590-420 F 1 b and 12 VAC 5-590-420 F 1 d to facilities and organizations, including the following:

(a) Public schools and/or local school boards;

(b) City or county health department;

(c) Women, Infants, and Children and/or Head Start Program(s) whenever available;

(d) Public and private hospitals and/or clinics;

(e) Pediatricians;

(f) Family planning clinics; and

(g) Local welfare agencies.

(4) Submit the public service announcement in 12 VAC 5-590-420 F 2 to at least five of the radio and television stations with the largest audiences that broadcast to the community served by the waterworks.

c. The owner of a community waterworks shall repeat the tasks contained in 12 VAC 5-590-420 F 3 b(1) (2), and (3) every 12 months, and the tasks contained in 12 VAC 5-590-420 F 3 b(4) every six months for as long as the waterworks exceeds the lead action level.

d. Within 60 days after it exceeds the lead action level, the owner of a nontransient noncommunity waterworks shall deliver the public education materials contained in 12 VAC 5-590-420 F 1 a, b, and d as follows:

(1) Post informational posters on lead in drinking water in a public place or common area in each of the buildings served by the waterworks, and

(2) Distribute informational pamphlets and/or brochures on lead in drinking water to each person served by the nontransient noncommunity waterworks.

e. The owner of a nontransient noncommunity waterworks shall repeat the tasks contained in 12 VAC 5-590-420 F 3 d at least once during each calendar year in which the waterworks exceeds the lead action level.

f. A waterworks owner may discontinue delivery of public education materials if the waterworks has met the lead action level during the most recent six-month monitoring period conducted pursuant to 12 VAC 5-590-370 B 6 a. The owner shall recommence public education in accordance with this section if the waterworks subsequently exceeds the lead action level during any monitoring period.

4. Supplemental monitoring and notification of results. The owner of a waterworks that fails to meet the lead action level on the basis of tap samples collected in accordance with 12 VAC 5-590-370 B 6 a 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.

G. Failure to meet any requirement of this section after the applicable date specified is a treatment technique violation.

Table 2.2  
INORGANIC CHEMICALS

Substance	Primary Maximum Contaminant Level (mg/L)
Arsenic (As)	0.05

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Barium (Ba)	1.0
Cadmium (Cd)	0.010
Chromium (Cr)	0.05
Fluoride (F)	4.0 #
Lead (Pb)	0.05
Mercury (Hg)	0.002
Nitrate (as N)	10.0**
Selenium (Se)	0.01
Silver (Ag)	0.05
<b>Substance</b>	<b>Secondary Maximum Contaminant Level (mg/L)</b>
Chloride (Cl)	250.0
Copper (Cu)	1.0
Corrosivity	Noncorrosive, See Appendix B
Fluoride	2.0
Foaming Agents	0.5*
Iron (Fe)	0.3
Manganese (Mn)	0.05
Sodium (Na)	No Limits Designated, See Appendix B
Sulfate (SO <sub>4</sub> )	250.0
Zinc (Zn)	5.0
<b>Substance</b>	<b>Action Level (mg/L)</b>
Lead (Pb)	0.015
Copper (Cu)	1.3

# Note. For artificially fluoridated waterworks the minimum concentration of fluoride should be 0.8 mg/L and the maximum should be 1.0 mg/L. The optimum control limit is 0.9 mg/L. (See Appendix B)

\* Note. Concentration reported in terms of Methylene Blue Active Substances.

\*\*Note. See Appendix B for Exception Regarding Noncommunity Waterworks.

## 12 VAC 5-590-530. Reporting.

A. The results of any required monitoring activity shall be reported by the waterworks owner to the appropriate field office no later than the 10th day of the month following the month during which the tests were taken.

B. It shall be the duty and responsibility of an owner to report to the appropriate field office in the most expeditious manner (usually by telephone) under the following circumstances. If it is done by telephone a confirming report shall be mailed as soon as practical.

1. When a bacteriological examination shows a repeat sample is required (see 12 VAC 5-590-380 D), a report shall be made within 48 hours. A waterworks owner must report a total coliform PMCL violation to the appropriate field office no later than the end of the next business day.

2. When the daily average of turbidity testing exceeds 5 NTU a report shall be made within 48 hours.

3. When a Primary Maximum Contaminant Level of an inorganic or organic chemical is exceeded for a single sample the owner shall report same within seven days. If any one sample result would cause the compliance average to be exceeded the owner shall report same in 48 hours.

4. When the average value of samples collected pursuant to 12 VAC 5-590-410 exceeds the Primary Maximum Contaminant Level of any organic or inorganic chemical the owner shall report same within 48 hours.

5. When the maximum contaminant level for radionuclides has been exceeded as determined by Table 2.5, the results shall be reported within 48 hours.

6. The waterworks owner shall report to the appropriate field office within 48 hours the failure to comply with the monitoring and sanitary survey requirements of these regulations.

7. The waterworks owner shall report to the appropriate field office within 48 hours the failure to comply with the requirements of any schedule prescribed pursuant to a variance or exemption.

C. The owner of a waterworks that provides filtration treatment shall report monthly to the division the following specified information beginning June 29, 1993, or when filtration is installed, whichever is later.

1. Turbidity measurements as required by 12 VAC 5-590-370 B 7 a 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 taken during the month.

b. The number and percentage of filtered water turbidity measurements taken during the month which are less than or equal to the turbidity limits specified in 12 VAC 5-590-420 B 2 for the filtration technology being used.

c. The date and value of any turbidity measurements taken during the month which exceed 5 NTU.

2. Disinfection information specified below shall be reported to the division within 10 days after the end of each month the waterworks serves water to the public. Information that shall be reported includes:

a. For each day, the lowest measurement of residual disinfectant concentration in mg/L in water entering the distribution system.

b. 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 division was notified of the occurrence.

c. The following information on the samples taken in the distribution system in conjunction with total coliform monitoring pursuant to 12 VAC 5-590-420 B.

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- (1) Number of instances where the residual disinfectant concentration is measured;
- (2) Number of instances where the residual disinfectant concentration is not measured but 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 HPC is > 500/mL;
- (5) Number of instances where the residual disinfectant concentration is not measured and HPC is > 500/mL;
- (6) For the current and previous month the system serves water to the public, the value of "V" in percent in the following formula:

$$V = \frac{c+d+e}{a+b} \times 100$$

- a = the value in paragraph C 2 c(1) of this section.  
b = the value in paragraph C 2 c(2) of this section.  
c = the value in paragraph C 2 c(3) of this section.  
d = the value in paragraph C 2 c(4) of this section.  
e = the value in paragraph C 2 c(5) of this section.

(7) If the division determines, based on site specific considerations, that a waterworks owner has no means for having a sample transported and analyzed for HPC by a certified laboratory within the requisite time and temperature conditions and that the waterworks is providing adequate disinfection in the distribution system, the requirements of subdivision C 2 c(1) through (6) of this section do not apply.

d. A waterworks owner need not report the data listed in subdivision C 2 a of this section if all data listed in subdivision C 2 a through c of this section remain on file at the waterworks and the division determines that the waterworks owner has submitted all of the information required by subdivision C 2 a through c of this section for at least 12 months.

### 3. Additional reporting requirements.

a. Each waterworks owner, upon discovering that a waterborne disease outbreak potentially attributable to that waterworks has occurred, shall report that occurrence to the division as soon as possible, but no later than by the end of the next business day.

b. If at any time the turbidity exceeds 5 NTU, the waterworks owner shall inform the division as soon as possible, but no later than the end of the next business day.

c. If at any time the chlorine residual falls below 0.2 mg/L in the water entering the distribution system, the

waterworks owner shall notify the division as soon as possible, but no later than by the end of the next business day. The waterworks owner also shall notify the division 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.

*D. Reporting requirements for lead and copper. All waterworks owners shall report all of the following information to the appropriate field office in accordance with this section.*

#### 1. Reporting requirements for tap water monitoring for lead and copper and for water quality parameter monitoring.

a. A waterworks owner shall report the information specified below for all tap water samples within the first 10 days following the end of each applicable monitoring period specified in 12 VAC 5-590-370 B 6 a, 12 VAC 5-590-370 B 6 b and 12 VAC 5-590-370 B 6 c (i.e., every six-months, annually, or every three years).

(1) The results of all tap samples for lead and copper including location or a location site code and the criteria under 12 VAC 5-590-370 B 6 a(1)(c), (d), (e), (f) and/or (g) under which the site was selected for the waterworks' sampling pool;

(2) A certification that each first draw sample collected by the waterworks is one-liter in volume and, to the best of their knowledge, has stood motionless in the service line, or in the interior plumbing of a sampling site, for at least six hours;

(3) Where residents collected samples, a certification that each tap sample collected by the residents was taken after the waterworks owner informed them of proper sampling procedures specified in 12 VAC 5-590-370 B 6 a(2)(b);

(4) 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 12 VAC 5-590-410 E 3;

(5) With the exception of initial tap sampling conducted pursuant to 12 VAC 5-590-370 B 6 a(4)(a), the waterworks owner shall designate any site which was not sampled during previous monitoring periods, and include an explanation of why sampling sites have changed;

(6) The results of all tap samples for pH, and where applicable, alkalinity, calcium, conductivity, temperature, and orthophosphate or silica collected under 12 VAC 5-590-370 B 6 b(2) through (5);

(7) The results of all samples collected at the entry point(s) to the distribution system for applicable water quality parameters under 12 VAC 5-590-370 B 6(2) through (5).

- b. By the applicable date in 12 VAC 5-590-370 B 6 a(4)(a) for commencement of monitoring, the owner of each community waterworks which does not complete the targeted sampling pool with tier 1 sampling sites meeting the criteria in 12 VAC 5-590-370 B 6 a(1)(c) shall send a letter to the appropriate field office justifying the selection of tier 2 and/or tier 3 sampling sites under 12 VAC 5-590-370 B 6 a(1)(d) and/or 12 VAC 5-590-370 B 6 a(1)(e).
- c. By the applicable date in 12 VAC 5-590-370 B 6 a(4)(a) for commencement of monitoring, the owner of each nontransient, noncommunity waterworks which does not complete the sampling pool with tier 1 sampling sites meeting the criteria in 12 VAC 5-590-370 B 6 a(1)(f) shall send a letter to the appropriate field office justifying the selection of sampling sites under 12 VAC 5-590-370 B 6 a(1)(5).
- d. By the applicable date in 12 VAC 5-590-370 B 6 a(4)(a) for commencement of monitoring, the owner of each waterworks with lead service lines that is not able to locate the number of sites served by such lines required under 12 VAC 5-590-370 B 6 a(1)(i) shall send a letter to the appropriate field office demonstrating why the owner was unable to locate a sufficient number of such sites based upon the information listed in 12 VAC 5-590-370 B 6 a(1)(b).
- e. Each waterworks owner who requests that the commissioner reduce the number and frequency of sampling shall provide the information required under 12 VAC 5-590-370 B 6 a(4)(d).
2. Water supply (source water) monitoring reporting requirements.
- a. A waterworks owner shall report the sampling results for all source water samples collected in accordance with 12 VAC 5-590-370 B 6 c 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 12 VAC 5-590-370 B 6 c.
- b. With the exception of the first round of source water sampling conducted pursuant to 12 VAC 5-590-370 B 6 c(2), the waterworks owner shall specify any site which was not sampled during previous monitoring periods, and include an explanation of why the sampling point has changed.
3. Corrosion control treatment reporting requirements. By the applicable dates under 12 VAC 5-590-420 C 2, waterworks owners shall report the following information:
- a. For waterworks demonstrating that they have already optimized corrosion control, information required in 12 VAC 5-590-420 C 2 b(2) or 12 VAC 5-590-420 C 2 b(3).
- b. For waterworks required to optimize corrosion control, the owner's recommendation regarding optimal corrosion control treatment under 12 VAC 5-590-420 C 1 a.
- c. For waterworks required to evaluate the effectiveness of corrosion control treatments under 12 VAC 5-590-420 C 1 c; the information required by that paragraph.
- d. For waterworks required to install optimal corrosion control designated by the commissioner under 12 VAC 5-590-420 C 1 d(1), a letter certifying that the owner has completed installing that treatment.
4. Water supply source water treatment reporting requirements. By the applicable dates in 12 VAC 5-590-420 D, waterworks owners shall provide the following information to the appropriate field office:
- a. If required under 12 VAC 5-590-420 D 2 a, the owner's recommendation regarding source water treatment;
- b. For waterworks required to install source water treatment under 12 VAC 5-590-420 D 2 b, a letter certifying that the waterworks has completed installing the treatment designated by the commissioner within 24 months after the commissioner designated the treatment.
5. Lead service line replacement reporting requirements. Waterworks owners shall report the following information to the appropriate field office to demonstrate compliance with the requirements of 12 VAC 5-590-420 E:
- a. Within 12 months after a waterworks exceeds the lead action level in sampling referred to in 12 VAC 5-590-420 E 1, the owner shall demonstrate in writing to the appropriate field office that the owner has conducted a materials evaluation, including the evaluation in 12 VAC 5-590-370 B 6 a(1), to identify the initial number of lead service lines in the distribution system, and shall provide the appropriate field office with the waterworks' schedule for replacing annually at least 7.0% of the initial number of lead service lines in its distribution system.
- b. Within 12 months after a waterworks exceeds the lead action level in sampling referred to in 12 VAC 5-590-420 E 1, and every 12 months thereafter, the waterworks owner shall demonstrate to the appropriate field office in writing that the waterworks owner has either:
- (1) 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 commissioner under 12 VAC 5-590-420 E 6) in the distribution system, or
- (2) Conducted sampling which demonstrates that the lead concentration in all service line samples from an individual line(s), taken pursuant to 12 VAC 5-590-370 B 6 a(7)(c), is less than or equal to 0.015 mg/L. In such cases, the total number of lines replaced and/or which meet the criteria in 12 VAC 5-590-420 E 3 shall equal at least 7.0% of the initial number of lead lines identified under paragraph 12 VAC 5-590-

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512 D 5 a (or the percentage specified by the commissioner under 12 VAC 5-590-420 E 6).

c. The annual letter submitted to the appropriate field office under 12 VAC 5-590-510 D 5 b shall contain the following information:

- (1) The number of lead service lines scheduled to be replaced during the previous year of the waterworks' replacement schedule;
- (2) The number and location of each lead service line replaced during the previous year of the waterworks' replacement schedule;
- (3) If measured, the water lead concentration and location of each lead service line sampled, the sampling method, and the date of sampling.

d. As soon as practicable, but in no case later than three months after a waterworks exceeds the lead action level in sampling referred to in 12 VAC 5-590-420 E 1, any waterworks owner seeking to rebut the presumption that it has control over the entire lead service line pursuant to 12 VAC 5-590-420 E 4 shall submit a letter to the appropriate field office describing the legal authority (e.g., state statutes, municipal ordinances, public service contracts or other applicable legal authority) which limits the waterworks owner's control over the service lines and the extent of the waterworks owner's control.

6. Public education program reporting requirements. By December 31st of each year, the owner of any waterworks that is subject to the public education requirements in 12 VAC 5-590-420 F shall submit a letter to the appropriate field office demonstrating that the waterworks owner has delivered the public education materials that meet the content requirements in 12 VAC 5-590-420 F 1 and 12 VAC 5-590-420 F 2 and the delivery requirements in 12 VAC 5-590-420 F 3. This information shall include a list of all the newspapers, radio stations, television stations, facilities and organizations to which the owner delivered public education materials during the previous year. The owner shall submit the letter required by this paragraph annually for as long as it exceeds the lead action level.

7. Reporting of additional monitoring data. The owner of any waterworks which collects sampling data in addition to that required by this subpart shall report the results to the appropriate field office within the first 10 days following the end of the applicable monitoring period under 12 VAC 5-590-370 B 6 a, 12 VAC 5-590-370 B 6 b and 12 VAC 5-590-370 B 6 c during which the samples are collected.

D. E. Reporting of analytical results to the appropriate field office will not be required in instances where the State Laboratory performs the analysis and reports same to that office.

E. F. Information to be included on the operation monthly report shall be determined by the division for each waterworks on an individual basis. Appendix G contains suggested monthly operation report requirements.

## 12 VAC 5-590-540 Public notification (Reference Appendix F for checklist and sample format.)

A. It shall be the duty and responsibility of the owner to give public notification under the following circumstances. (See Appendix F for mandatory health effects language.)

1. When any applicable PMCL has been exceeded as set forth in 12 VAC 5-590-370.
2. Failure to comply with an applicable treatment technique.
3. Failure to comply with the requirements of any schedule prescribed pursuant to a variance or exemption.
4. Failure to do the prescribed monitoring as required.
5. Failure to comply with an applicable testing procedure as prescribed in 12 VAC 5-590-440.
6. Having been granted or having in effect a variance or exemption from an applicable PMCL.
7. Special public notification requirements for fluoride. Notice of violations of the Primary or Secondary Maximum Contaminant Level for fluoride, notices of variances and exemptions from the Primary Maximum Contaminant Level for fluoride, and notices of failure to comply with variance and exemption schedules for the Primary Maximum Contaminant Level for fluoride shall consist of the public notice in Appendix H plus a description of the nature of the violation and a description of any steps which the waterworks is taking to come into compliance.
8. Lead General lead notification as required by PL 100-572 (LCCA).

a. In addition to the requirements of subdivision A 1 through 6 of this section, the owner of each community waterworks and each nontransient noncommunity waterworks shall issue notice to persons served by that system that may be affected by lead contamination of their waterworks. The division may require subsequent notices. The owner shall provide notice under this section even if there is no violation of the PMCL exceedance of the Lead Action Level as defined in 12 VAC 5-590-410 E 1.

b. Notice under subdivision A 8 a of this section is not required if the waterworks demonstrates to the division that the waterworks including the residential and nonresidential portions connected to the water system are lead free. For the purposes of this paragraph, the term "lead free" when used with respect to solders and flux refers to solders and flux containing not more than 0.2% lead, and when used with respect to pipes and pipe fittings refers to pipes and pipe fittings containing not more than 8.0% lead.

c. Manner of notice. Notice shall be given to persons served by the waterworks either by (i) three newspaper notices (one for each of three consecutive months) as directed by the division; or (ii) once by mail notice with the water bill or in a separate mailing as directed by

the division; or (iii) once by hand delivery. For nontransient noncommunity waterworks, notices may be given by continuous posting. If posting is used, the notice shall be posted in a conspicuous place in the area served by the waterworks and continue for three months as directed by the division.

d. General content of notice. Notices issued under this section shall provide a clear and readily understandable explanation of the potential sources of lead in drinking water, potential adverse health effects, reasonably available methods of mitigating known or potential lead content in drinking water, any steps the waterworks is taking to mitigate lead content in drinking water, and the necessity for seeking alternative water supplies, if any. The notice shall include the mandatory health effects language set out in Appendix F. In addition, each notice shall also include specific advice on how to determine if materials containing lead have been used in homes or the water distribution system and how to minimize exposure to water likely to contain high levels of lead. Each notice shall be conspicuous and shall not contain unduly technical language, unduly small print, or similar problems that frustrate the purpose of the notice. Each notice shall contain the telephone number of the waterworks owner, operator, or designee as a source of additional information regarding the notice. Where appropriate, the notice shall be multilingual.

9. Availability of unregulated contaminant results. The owner shall notify persons served by the waterworks of the availability of the results of sampling conducted for unregulated contaminants under 12 VAC 5-590-370 B 4 by including a notice in the first set of water bills issued by the waterworks after the receipt of the results or written notice within three months. The notice shall identify a person and the telephone number for information on the monitoring results. For surface water source waterworks which provide this public notice after the first quarter of monitoring, the notice must include a statement that additional monitoring will be conducted for three more quarters with the results available upon request.

B. Tier I. The owner of a waterworks in violation as described in subdivision A 1, 2, or 3 of this section shall give notice as follows:

1. Newspaper. By publication in a daily newspaper of general circulation in the area served by the system as soon as possible, but in no case later than 14 days after the violation or failure. If the area served by a waterworks is not served by a daily newspaper of general circulation, notice shall instead be given by publication in a weekly newspaper of general circulation serving the area; and

2. Mail or hand delivery. By mail delivery (by direct mail or with the water bill), or by hand delivery, not later than 45 days after the violation or failure. The division may waive mail or hand delivery if it determines that the owner of the waterworks in violation has corrected the violation or failure within the 45-day period. The division

must make the waiver in writing and within the 45-day period; and

3. Imminent health threats. For violations of the PMCLs of contaminants that may pose an acute risk to human health, by furnishing a copy of the notice to the radio and television stations serving the area served by the waterworks as soon as possible but in no case later than 72 hours after the violation. The following violations are acute violations:

a. Violation of the bacteriological PMCL.

b. Violation of the nitrate PMCL.

c. Occurrence of a waterborne disease outbreak as determined by the commissioner or the State Epidemiologist in an unfiltered waterworks with a surface source or groundwater source influenced by surface water.

d. Other violations as determined by the division.

4. Long term violations. Following the initial notice given under 12 VAC 5-590-540 B 1 or 2 of this section, the owner must give notice at least once every three months by mail delivery (by direct mail or with the water bill) or by hand delivery, for as long as the violation or failure exists.

5. Exceptions:

a. In lieu of the requirements of 12 VAC 5-590-540 B 1, the owner of a community waterworks in an area that is not served by a daily or weekly newspaper of general circulation shall give notice within 14 days after the violation or failure by hand delivery or by continuous posting in conspicuous places within the area served by the waterworks. Posting must continue for as long as the violation or failure exists. Notice by hand delivery must be repeated at least every three months for as long as the violation or failure exists.

b. In lieu of the requirements of 12 VAC 5-590-540 B 1 and 12 VAC 5-590-540 B 2, the owner of a noncommunity waterworks may give notice within 14 days after the violation or failure by hand delivery or by continuous posting in conspicuous places within the area served by the waterworks. Posting must continue for as long as the violation or failure exists. Notice by hand delivery must be repeated at least every three months for as long as the violation or failure exists.

C. Tier II. The owner of a waterworks in violation as described in 12 VAC 5-590-540 A 4, 12 VAC 5-590-540 A 5 or 12 VAC 5-590-540 A 6 shall give notice as follows:

1. Within three months of the violation or granting of a variance or exemption by publication in a daily newspaper of general circulation in the area served by the waterworks. If the area served by a waterworks is not served by a daily newspaper of general circulation, notice shall instead be given by publication in a weekly newspaper of general circulation serving the area.

2. For long term violations, the owner shall give notice at least once every three months by mail delivery (by direct mail or with the water bill) or by hand delivery, for as long

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as the violation exists. Repeat notice of the existence of a variance or exemption must be given every three months for as long as the variance or exemption remains in effect.

### 3. Exceptions:

a. **Community waterworks.** In lieu of the requirements of 12 VAC 5-590-540 C 1 and 12 VAC 5-590-540 C 2 the owner of a community waterworks in an area that is not served by a daily or weekly newspaper of general circulation shall give notice, within three months of the violation or granting of the variance or exemption, by hand delivery or by continuous posting in conspicuous places within the area served by the waterworks. Posting must continue for as long as the violation exists or a variance or exemption remains in effect. Notice by hand delivery must be repeated at least every three months for as long as the violation exists or a variance or exemption remains in effect.

b. **Noncommunity waterworks.** In lieu of the requirements of 12 VAC 5-590-540 C 1 and 12 VAC 5-590-540 C 2 the owner of a noncommunity waterworks shall give notice, within three months of the violation or the granting of the variance or exemption, by hand delivery or by continuous posting in conspicuous places within the area served by the waterworks. Posting must continue for as long as the violation exists, or a variance or exemption remains in effect. Notice by hand delivery must be repeated at least every three months for as long as the violation exists or a variance or exemption remains in effect.

c. **Minor violations.** In lieu of the requirements of 12 VAC 5-590-540 C 1 and 12 VAC 5-590-540 C 2, the owner of a waterworks, at the discretion of the division, may provide less frequent notice for minor monitoring violations as defined by the division, if approved by EPA. Notice of such violations must be given no less frequently than annually.

D. **Notice to new billing units.** The owner of a community waterworks must give a copy of the most recent public notice for any outstanding violation of any Maximum Contaminant Level or any treatment technique requirement or any variance or exemption schedule to all new billing units or new hookups prior to or at the time service begins.

E. **General content of public notice.** Each notice required by this section must provide a clear and readily understandable explanation of the violation, any potential adverse health effects, the population at risk, the steps that the waterworks is taking to correct such violation, the necessity for seeking alternative water supplies, if any, and any preventive measures the consumer should take until the violation is corrected. Each notice shall be conspicuous and shall not contain unduly technical language, unduly small print, or similar problems that frustrate the purpose of the notice. Each notice shall include the telephone number of the owner, operator, or designee of the waterworks as a source of additional information concerning the notice. Where appropriate, the notice shall be multilingual.

F. **Mandatory health effects language.** When providing the information on potential adverse health effects required by 12

VAC 5-590-540 E in notices of violations of Maximum Contaminant Levels or treatment techniques requirements, or notices of the granting or the continued existence of exemptions or variances, or notices of failure to comply with a variance or exemption schedule, the owner of a waterworks shall include the language specified in Appendix F as appropriate. If language for a particular contaminant is not specified in Appendix F, this subsection does not apply.

G. **Public notification by the division.** The division may give notice to the public required by this section on behalf of the owner of the waterworks if the division complies with the requirements of this section. However, the owner of the waterworks remains legally responsible for ensuring that the requirements of this section are met.

H. **Within 10 days of completion of each public notice,** the waterworks owner shall provide the appropriate field office with a representative copy of each type of notice distributed, published, posted and/or made available to the consumers and/or to the media.

### 12 VAC 5-590-550. Record keeping

All waterworks shall retain within their facilities or at a convenient location near their facilities the following records for the minimum time periods specified:

A. Bacteriological Records - Five years

B. Chemical Analyses - 10 years

C. The following information shall be provided for subsections A and B above:

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.

D. *Original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, commissioner determinations, and any other information required by 12 VAC 5-590-420 C 1, C 2, D, E, and F; and 12 VAC 5-590-370 B 6 a, B 6 b, and B 6 c pertaining to lead and copper. Each waterworks owner shall retain the records required by this section for no fewer than 12 years.*

D. E. Action taken to correct violations of these regulations — three years after last action with respect to violation involved.

E. F. Copies of reports, summaries, or communications relating to any sanitary surveys performed — 10 years following inspection.

F. G. Variance or exemptions granted (and records related thereto) — five years following expiration of variance or exemption.

G. H. Cross connection control program records — 10 years.

H. I. All waterworks shall retain the following additional records:

1. Plant operational records
2. Water well completion reports
3. As built engineering plans and specifications of facilities
4. Shop drawings of major equipment
5. Records of equipment repair or replacement
6. Updated map of water distribution system
7. All accident reports

## APPENDIX B

### BACKGROUND USED IN DEVELOPING THE CHEMICAL, PHYSICAL AND RADIOLOGICAL LIMITS OF THE DRINKING WATER STANDARDS

#### ARSENIC

PRIMARY MAXIMUM CONTAMINANT LEVEL - 0.05 mg/L

Arsenic, a metalloid that occurs ubiquitously in nature, is acutely and chronically toxic to man. Although no form of arsenic is known to be essential, it has been added in small amounts to animal feed as a growth stimulant. Arsenic has been associated with the occurrence of cancer, but its exact role as a carcinogen has not been determined because exposure apparently must be quite high and occur over an extended period before skin cancer develops. During low level chronic exposure, arsenic accumulates in the body even though clinical disease does not develop. This deposition is often measured by analysis of hair samples, and for exposures at or above the standard, increased body burden would be expected. Where arsenic occurs in nature, it will often be present in the air, water, and in locally grown food; because of its relatively high toxicity, the concentration of arsenic in drinking water shall be no greater than 0.05 mg/L in order to ensure a reasonable factor of safety in protecting the health of exposed population.

#### BARIUM

PRIMARY MAXIMUM CONTAMINANT LEVEL - 1.0 mg/L

Barium ingestion can cause serious toxic effects on the heart, blood vessels, and nerves. Barium enters the body primarily through air and water since essentially no food contains barium in appreciable amounts.

There apparently has been no study made of the amounts of barium that may be tolerated in drinking water, nor any study of the effects of long-term feeding of barium salts from which a limit might be derived. The present barium limit has been developed from the barium-in-air standard. By making assumptions as to retention of inhaled barium dusts and absorption from the intestines, including a safety factor, 1.0 mg/L should constitute a no effect level in water. Therefore, to protect human health, the concentration of barium in drinking water shall not exceed 1.0 mg/L.

#### CADMIUM

PRIMARY MAXIMUM CONTAMINANT LEVEL - 0.010 mg/L

Cadmium is a nonessential metal that has been demonstrated to be highly toxic. Cadmium has recently been associated with a severe bone and kidney syndrome in Japan. The apparent lack of the ability to excrete absorbed cadmium by animals and the accumulation of cadmium in renal and hepatic tissues of man also requires that intake of this element be limited. Consequently concentrations of cadmium in drinking water shall not exceed 0.010 mg/L.

#### CHLORIDE

SECONDARY MAXIMUM CONTAMINANT LEVEL - 250 mg/L

Chloride in drinking water should not exceed 250 mg/L, because concentrations above this limit may impart a detectable taste that is objectionable to some consumers. When chloride reaches these levels, this water should not be used for drinking or culinary purposes if better quality water is or can be made available.

#### CHROMIUM

PRIMARY MAXIMUM CONTAMINANT LEVEL - 0.05 mg/L

Chromium, in its various valence states, is toxic to man, produces lung tumors when inhaled, and induces skin sensitizations. Chromium occurs in some foods, in air, including cigarette smoke, and in some water supplies. To avoid jeopardizing the public health, chromium in the drinking water shall not exceed 0.05 mg/L.

#### COLOR

SECONDARY MAXIMUM CONTAMINANT LEVEL - 15  
COLOR UNITS

Although the intensity of color does not directly measure the safety of the water, it is related to consumer acceptance of the water. This limit is based on the level at which color becomes objectionable to a considerable number of people. Experience has shown that if water is too colored, many people will turn to alternate supplies that may be less safe.

#### COPPER

SECONDARY MAXIMUM CONTAMINANT ACTION LEVEL -  
1.0 mg/L 1.3 mg/L

Copper is an essential and beneficial element in human metabolism. The daily copper requirement for adults has been estimated to be 2.0 mg. Preschool age children require about 0.1 mg daily for normal growth. ~~Large doses may produce emesis, and prolonged oral administration may result in liver damage. This limit, however, is based on undesirable taste rather than a health hazard. Copper at high doses has, however, been shown to cause stomach and intestinal distress, liver and kidney damage, and anemia.~~

~~Individuals vary in their ability to taste the presence of copper in water. The minimal detectable concentration for taste varies from 1 to 5 mg/L. To avoid a possibility of taste, drinking water should not contain more than 1.0 mg/L of copper.~~

*A primary source of high concentrations of copper in drinking water is from the internal corrosion of copper plumbing within the home. The EPA has established an action level of 1.3*

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mg/L of copper in first draw tap sample which may result in public waterworks installing measures to control corrosion.

## CORROSION SECONDARY MAXIMUM CONTAMINANT LEVEL - NONCORROSIVE

Corrosion is responsible for many problems in the water distribution system including tuberculation with loss of carrying capacity and increased pumping costs, leaks, main ruptures, discoloration and loss of chlorine residual. The corrosivity of drinking water is a parameter which has not only esthetic and economic significance, but is health significant as well. The products of corrosion having the greatest health significance at the present time, cadmium and lead, are addressed as primary maximum contaminants, but there is also a sufficient basis to include corrosivity as a secondary maximum contaminant level.

Corrosivity is controlled by pH adjustment, the use of chemical stabilizers, or other means which are dependent upon the specific conditions of the water. The two major corrosion indicators utilized in Virginia are the Langelier Index (L.I.) and the Aggressive Index (A.I.) Other indicators also exist. The L.I. and A.I. are determined by utilizing some or all of the following parameters:

- pH
- Calcium Hardness
- Alkalinity
- Temperature
- TDS

All waterworks owners will be notified periodically of the corrosivity of their drinking water by the division, either as L.I., A.I. or other appropriate index. Noncorrosive water should be the goal of each waterworks owner.

Furthermore, EPA requires each owner to be aware of type of materials used in the distribution system (including service connections and household plumbing) such as:

### LEAD

Pipe  
Solder  
Caulking

Lining of Distribution Mains  
Household Plumbing

### GALVANIZED

Service Lines  
  
Household Plumbing

### COPPER

Piping  
Service Lines  
Household Plumbing

Ferrous Piping (cast iron and steel)  
  
Asbestos Cement Pipe  
  
Vinyl Lined Asbestos Cement Pipe

Coal Tar Lined Pipes  
Plastic Pipe  
Piping  
Service Lines  
Household Plumbing

## PRIMARY MAXIMUM CONTAMINANT LEVEL - 4.0 mg/L SECONDARY MAXIMUM CONTAMINANT LEVEL - 2.0 mg/L

When the fluoride concentration in drinking water is maintained within the recommended ranges of 0.8 mg/L minimum and 1.0 mg/L maximum with the optimum being 0.9 mg/L, the consumer will realize a reduction in dental caries. When supplemental fluoridation is practiced, it is particularly advantageous to maintain a fluoride concentration at or near the optimum. The reduction in dental caries experienced at optimal fluoride concentrations will be diminished by as much as 50% when the concentration is 0.2 mg/L below the optimum. An approval limit slightly higher than the optimum can be tolerated without any mottling of teeth, so where fluorides are native to the water supply, these concentrations are acceptable. Higher levels should be reduced by treatment or blending with other sources lower in fluoride content. The U.S. Environmental Protection Agency has determined that the PMCL for fluoride is 4.0 mg/L based on long term toxicity data. The EPA has also determined that the SMCL for fluoride is 2.0 mg/L based on the potential formation of cosmetically objectionable dental fluorosis as a result of long term exposure. The level of the SMCL was based on a balancing of the beneficial and undesirable effects of fluoride.

## FOAMING AGENTS SECONDARY MAXIMUM CONTAMINANT LEVEL - 0.5 mg/L as Methylene Blue Active Substance

Foaming is an undesirable property of drinking water because it is esthetically displeasing and therefore should be absent. Because no convenient standardized foamability test exists, and because surfactants are one major class of substances that cause foaming, this property is determined indirectly by measuring the anionic surfactant concentration of substances measured by the methylene blue method and should not exceed 0.5 mg/L as methylene blue active substances (MBAS).

## IRON SECONDARY MAXIMUM CONTAMINANT LEVEL - 0.3 mg/L

Iron is a highly objectionable constituent in water supplies for either domestic or industrial use. Iron may impart brownish discolorations to laundered goods. The taste that it imparts to water may be described as bitter or astringent, and may adversely affect the taste of other beverages.

Diets contain 7 to 35 mg. of iron per day, and average 16. The amount of iron permitted in water by quality control to prevent objectionable taste or laundry staining, constitutes only a small fraction of the amount normally consumed and does not have toxicologic significance.

## LEAD

PRIMARY MAXIMUM CONTAMINANT ACTION LEVEL - 0.05 mg/L  
0.015 mg/L

Lead is a toxic metal that tends to accumulate in the bone of man and animals. Signs of lead intoxication include gastrointestinal disturbances, fatigue, anemia, muscular paralysis, and encephalopathy. Irreversible damage to the brain is the frequent result of lead intoxication in children because of their eating lead containing paint still found in older homes. The most serious effects on the nervous system are seldom seen in the adult population however.

~~Because the background intake of lead associated with the diet, 0.3 milligrams per day, is one half the maximum intake that will not cause the development of lead intoxication with long term exposure, the exposure of humans to lead by other routes must be severely limited. Based on a fluid intake of two liters per day, a lead concentration of 0.05 mg/L in water would contribute 0.1 milligrams per day, approximately 25% of the total daily intake. Therefore, the lead concentration in drinking water shall not exceed 0.05 mg/L.~~

Household plumbing has been identified as a significant contributor of lead to our drinking water; therefore; any notice to the public concerning lead should advise persons served by the system to use only the cold water faucet for drinking and for use in cooking or preparing baby formula, and to run the water until it gets as cold as it is going to get before each use. If there has recently been major water use in the household, such as showering or bathing, flushing toilets, or doing laundry with cold water, flushing the pipes should take 5 to 30 seconds, if not, flushing the pipes could take as long as several minutes. Each notice (see 12 VAC 5-590-520 A 8) should also advise persons served by the system to check to see if lead pipes, solder, or flux have been used in plumbing that provides tap water and to ensure that new plumbing and plumbing repairs use lead free materials.

*The EPA's national primary drinking water regulation requires all public water systems to optimize corrosion control to minimize lead contamination resulting from the corrosion of plumbing materials. Public water systems serving 50,000 people or fewer that have lead concentrations below 15 parts per billion (ppb) in more than 90% of tap water samples (the EPA "action level") have optimized their corrosion control treatment. Any water system that exceeds the action level must also monitor their source water to determine whether treatment to remove lead in source water is needed. Any water system that continues to exceed the action level after installation of corrosion control and/or source water treatment must eventually replace all lead service lines contributing in excess of 15 ppb of lead to drinking water. Any water system that exceeds the action level must also undertake a public education program to inform consumers of ways they can reduce their exposure to potentially high levels of lead in drinking water.*

## MANGANESE

SECONDARY MAXIMUM CONTAMINANT LEVEL - 0.05 mg/L

The principal reason for limiting the concentration of manganese is to provide water quality control and thus reduce the esthetic and economic problems. It produces a

brownish discoloration in laundered goods and impairs the taste of beverages, including tea and coffee. Because of the problems caused and the difficulty of removing manganese to residual concentrations less than 0.05 mg/L and of measuring such concentrations, it should be limited to a maximum of 0.05 mg/L.

## MERCURY

PRIMARY MAXIMUM CONTAMINANT LEVEL - 0.002 mg/L

Mercury vapor and the numerous mercury compounds that are widely used are extremely toxic, whereas metallic mercury is relatively harmless upon oral administration. Of the organic forms (alkyl, alkoxyalkyl, and aryl) of mercury, the alkyl forms are by far the most toxic to man. The propensity of these mercurials for the nervous system, their ability to cross the placenta, and their effect on developing tissue render them particularly hazardous to man. In raw water and sediments, inorganic mercury, which is widely distributed as a result of both natural deposits and manmade sources, is converted by microbial action to the extremely toxic alkyl forms. Alkyl mercury from such reactions is readily incorporated into food chains of aquatic life and concentrates substantially in the larger members of the chains. Because mercury and its compounds are highly toxic and occur in water and air as well as foods, the concentration of total mercury in drinking water shall not exceed 0.002 mg/L to ensure adequate protection for the health of the population.

## NITRATE

PRIMARY MAXIMUM CONTAMINANT LEVEL - 10 mg/L as Nitrogen

Waters with a nitrate concentration exceeding the standard when used for infant feeding have caused a serious and occasional fatal poisoning of infants. Several factors make the infant susceptible to this disease while older children and adults are not affected. The nitrate in the water is converted to nitrite by bacterial action in the infant's stomach, and the nitrite is absorbed and combines with hemoglobin to form methemoglobin. This results in reduced oxygen transport, and the baby develops methemoglobinemia. To avoid the possibility of forming methemoglobin by nitrate reduction, the concentration of nitrate nitrogen in drinking water shall not exceed 10 mg/L.

Nitrate nitrogen (NO<sub>3</sub>-N) levels not exceeding 20 mg/L may be allowed in a noncommunity waterworks if the owner demonstrates:

1. Such water will not be available to children under 6 months of age; and
2. There will be continuous posting of the fact that NO<sub>3</sub>-N levels exceed 10 mg/L and the potential health effects of exposure; and
3. Health officials will be notified annually of NO<sub>3</sub>-N levels that exceed 10 mg/L; and
4. No adverse health effects will result.

NOTE: Nitrite in water poses a greater health hazard but fortunately it seldom occurs in high concentrations. Waters with nitrite-nitrogen concentrations over 1 mg/L should not be used for infant feedings.

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## ODOR SECONDARY MAXIMUM CONTAMINANT LEVEL - 3 Threshold Odor Number

Although the intensity of odor does not directly measure the safety of the water, it is related to consumer acceptance of water. This limit is based on the level at which odor becomes objectionable to a considerable number of people.

Experience has shown that if water is too odorous, many people will turn to alternate supplies that may be less safe.

Distribution of drinking water having little or no odor will indirectly ensure that certain specific contaminants are absent, or are present at very low levels. For example phenol should not be present at concentrations above 1 mg/L or odorous water will be produced during disinfection with chlorine. For these reasons, the Threshold Odor Number (T.O.N.) of drinking water should not exceed three.

## PESTICIDES CHLORINATED HYDROCARBON INSECTICIDES PRIMARY MAXIMUM CONTAMINANT LEVELS

	mg/L
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005

Although restrictions of use are currently being proposed for a number of chlorinated hydrocarbon insecticides, their continued use for human disease control and for other essential uses for which no alternative is available, as well as their persistence in the environment, makes it necessary that a limit be placed on the concentrations of these pesticides in drinking water. From knowledge of the toxicity of these agents to man and experimental animals, and from information about total exposure of man to these compounds, the above limits have been established to protect, with a reasonable factor of safety, the health of the population.

## Chlorophenoxy Herbicides PRIMARY MAXIMUM CONTAMINANT LEVELS

	mg/L
2, 4 - Dichlorophenoxyacetic acid (2, 4-D)	0.1
2, 4, 5 - Trichlorophenoxypropionic Acid (2, 4, 5-TP or Silvex)	0.01

Chlorophenoxy herbicides are used extensively for aquatic weed control. The application of these agents to water that may serve as the source of municipal water supplies increases the likelihood of contamination of drinking water with the consequent exposure of the population to these chemicals. Silvex and 2, 4-D are moderately toxic to mammals. To minimize hazards to human health from the ingestion of these compounds the above limits shall not be exceeded in drinking water.

## RADIOACTIVITY Alpha Activity PRIMARY MAXIMUM CONTAMINANT LEVEL

Substances that emit ionizing radiation in the form of alpha particles are harmful to the tissue of the organ in which they lodge because of the generally high transfer of energy from alpha particles to surrounding tissue. Of all the substances frequently found in water that emit alpha particles, one, radium 226, is particularly hazardous because it produces a chain of alpha emitting decay products, it is retained in the bone, and it has a long biological half life. For these reasons, radium 226 and its subsequent decay products can cause bone cancer.

For the purpose of monitoring radioactivity concentrations in drinking water, the required sensitivity of the radioanalysis is defined in terms of a detection limit. The detection limit shall be that concentration which can be counted with a precision of plus or minus 100% at the 95% confidence level (1.96 where is the standard deviation of the net counting rate of the sample). To determine compliance with Table 2.5A the detection limit shall not exceed 1 pCi/L. To determine compliance with Table 2.5B the detection limit shall not exceed 3 pCi/L.

## MAN-MADE RADIONUCLIDES Beta Particle and Photon Radioactivity PRIMARY MAXIMUM CONTAMINANT LEVEL

Of those radionuclides that emit beta radiation strontium-90 is particularly hazardous because of its long biological half life, and its retention in bone, which causes leukemia and bone cancer in animals. Another important beta emitter is radioiodine because it is selectively concentrated in the thyroid gland. For the purpose of monitoring radioactivity concentrations in drinking water, the required sensitivity of the radioanalysis is defined in terms of a detection limit. The detection limit shall be that concentration which can be counted with a precision of plus or minus 100% at the 95% confidence level (1.96 where 0 is the standard deviation of the net counting rate of the sample).

To determine compliance with Table 2.5, the detection limits shall not exceed the concentrations listed in the following Table.

## DETECTION LIMITS FOR MAN-MADE BETA PARTICLE PHOTON EMITTERS

RADIONUCLIDE	DETECTION LIMIT
Tritium	1,000 pCi/L
Strontium-89	10 pCi/L
Strontium-90	2 pCi/L
Iodine-131	1 pCi/L
Cesium-134	10 pCi/L
Gross Beta	4 pCi/L
Other radionuclides	1/10 of the applicable limit

## SELENIUM

PRIMARY MAXIMUM CONTAMINANT LEVEL - 0.01 mg/L

Early evidence suggested that selenium was carcinogenic. These observations have not been borne out by subsequent data. In recent years, selenium has become recognized as a dietary essential in a number of species. However, excessive intakes of selenium (greater than 0.2 mg/Kg/day) produce adverse effects in a number of species. The only human data available suggests that as little as a three fold increase in selenium intake over that found in the average diet in the U.S. is associated with minor disturbances in physiologic function. At a maximum level of 0.01 mg/liter, water would increase the intake of selenium over that in the diet by less than 10%.

Consequently, to maintain the rather narrow margin of safety imposed by the background ingestion of selenium from food, drinking water shall not contain more than 0.01 mg/liter of selenium.

## SILVER

PRIMARY MAXIMUM CONTAMINANT LEVEL - 0.05 mg/L

A water standard for silver is needed because of its intentional addition to water for disinfection. Its principal effect in the body is cosmetic: any amount greater than one gram of silver in an adult causes a permanent gray discoloration of skin, eyes, and mucous membranes. Assuming that all silver ingested in water is deposited in the skin, eyes and mucous membranes, it is calculated that 0.05 mg/L silver could be ingested for approximately 27 years without exceeding silver deposition of one gram.

Because of the evidence that silver once absorbed is held indefinitely in the tissues, and because of the possibility of silver absorption from certain cooked foods and from silver treated water, the concentration in drinking water shall not exceed 0.05 mg/L.

## SODIUM

No Limits Designated

For a healthy individual, the intake of sodium is discretionary and is influenced by food selection and seasoning. The intake of sodium may average six grams per day without adverse health effects. Physicians do recommend, however, various restricted sodium intakes of a significant portion of the population, including persons suffering from hypertension, edema associated with congestive heart failure, and women with toxemia of pregnancy. For some persons, the sodium intake is "strict" -- 500 mg per day divided between food and water, as shown below.

### Sodium Content of a Strict Diet

Food	440 mg/day
Nonfood	
Water (20 mg/L x 2 L/day)	40 mg/day
Incidentals	60 mg/day
Total	500 mg/day

Because prescribed diets for these individuals allow for only 20 mg sodium per liter to be present in drinking water and

water used for cooking, persons on a "strict" sodium intake would have to use distilled water or deionized water except when the sodium concentration in a public supply was less than 20 mg per liter. For persons on a "moderately restricted" diet, a total intake of 1000 mg of sodium per day is allowed. One-half of this intake, 500 mg sodium per day, is allocated as in the "strict diet" above.

The remaining 500 mg/day intake is allocated either for the use of 1/4 teaspoon of salt, some regular bakery bread and/or salted butter, or the use of drinking and cooking water with a sodium content above the 20 mg/L concentration allowed in the "strict" diet. The division of the "moderately restricted" diet is shown below.

### Sodium Content of Moderately Restricted Diet

#### Strict Diet Allocation (as above)

Food	400 mg/day
Nonfood	
Water	400 mg/day
Incidentals	20 mg/day 60 mg/day
Total	500 mg/day

#### Additional Allowance

Food	
or	
Water	500 mg/day
Total	1,000 mg/day

Considering the difficulty of removing sodium from drinking water, all of the additional daily allowance of sodium permitted in this diet is allocated to water. Based on this allocation, the total daily intake of sodium from drinking water in this diet would be 540 mg/day. Assuming a daily use of 2 liters of water for drinking and culinary purposes, a limit of 270 mg per liter would provide a maximum intake from water of 540 milligrams of sodium per day. Such water could be used by persons on a moderately or less restricted sodium intake. The sodium content of drinking water, however, should not be increased for frivolous reasons. Home water softeners or conditioners increase the sodium content of water. The portion of the water that is supplied to taps for drinking or cooking for persons on any sodium restricted diet should not be softened by sodium ion exchange.

Because the response of people who should restrict their sodium intake for health reasons represents a continuum of response versus intake, and because the allocation of all the difference between the dietary intake, between the strict and the moderately restricted diet is allocated to drinking water, a Maximum Contaminant Level for Sodium would be a somewhat arbitrary selection.

However, waters containing high concentrations of sodium are likely to be too highly mineralized to be considered desirable from esthetic standpoints aside from health considerations.

Treatment of the entire public water supply to remove sodium is quite costly but home treatment for drinking water alone for

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those needing low sodium water can be done at relatively modest costs or low sodium content bottled water can be used.

For the above reasons, water containing more than 270 mg/L of sodium should not be used for drinking water by those on moderately restricted sodium diets, and water containing more than 20 mg/L should not be used by those on severely restricted diets.

Local health officials shall be notified by the division of the sodium content of all public water supplies in order that they may advise physicians in the area. Such information is also available to the general public upon request.

## SULFATE

SECONDARY MAXIMUM CONTAMINANT LEVEL - 250 mg/L

Drinking water should be low in sulfate ion because of the taste and laxative effect produced by some sulfate salts. The laxative effect is generally more pronounced in newcomers because one becomes acclimated to these waters in a relatively short time. To protect this segment of the public from discomfort caused by excessive sulfate content in drinking water and to avoid any taste problems, its concentration should not exceed 250 mg/L if better quality water is or can be made available.

## TOTAL TRIHALOMETHANES

PRIMARY MAXIMUM CONTAMINANT LEVEL - 0.10 mg/L

Total trihalomethanes are defined as trichloromethane (chloroform), dibromochloromethane, bromodichloromethane and tribromomethane (bromoform). The principal source of the total trihalomethanes in drinking water is the chemical interaction of the chlorine added for disinfection and other purposes with the commonly present natural humic and fulvic substances and other precursors. The level of trihalomethanes in drinking water will vary depending upon the season, chlorine contact time, water temperature, pH, type and chemical composition and treatment methodology.

EPA has stated that sufficient scientific evidence has been accumulated to conclude that chloroform is an animal carcinogen and should be presumed to be a risk to humans and that, as such, prudent public health warrants reasonable measures to reduce human exposure.

## TURBIDITY

PRIMARY MAXIMUM CONTAMINANT LEVEL - 1 TU

Turbidity in drinking water shall not exceed one turbidity unit at the point where water enters the distribution system except where it can be demonstrated that a higher turbidity not exceeding 5 TU does not: (1) interfere with disinfection, (2) cause tastes and odors upon disinfection, (3) prevent the maintenance of an effective disinfection agent throughout the distribution system, (4) result in deposits in the distribution system, and (5) cause consumers to question the safety of their drinking water.

Operational requirement: water filtration plants utilizing surface waters as a source of supply are capable of producing filtered water with a turbidity consistently less than 0.5 TU. Therefore, for water filtration plants the filter effluent

turbidity for each filter, before any post-filtration chemical addition, operational limit is 0.5 TU.

## VOLATILE ORGANIC CHEMICALS (VOCs)

Primary Maximum Contaminant Levels

	mg/L
Benzene	0.005
Vinyl chloride	0.002
Carbon tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene (TCE)	0.005
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.20
para-Dichlorobenzene	0.075

VOCs are manmade carbon based chemicals that vaporize when they come in contact with air. These chemicals are commonly used as fumigants, solvents, degreasers, and dry cleaning chemicals. Because they are so widely used, VOCs become present in water systems through runoff, accidental spillage, and improper disposal of industrial, agricultural, and domestic waste. Higher levels can be found in ground water systems since VOCs in surface water readily evaporate or are broken down by sunlight.

VOCs pose a possible health risk to humans. Toxic effects may be induced after short term or long term exposure. Such toxic effects can include nausea, drowsiness, loss of balance, and unconsciousness. Very high concentrations of VOCs can produce adverse effects on the central nervous systems. To reduce the health risks associated with VOCs, drinking water standards or maximum contaminant levels have been established for the eight most prevalent VOCs in waterworks. The reasons of concern for each contaminant are as follows:

Trichloroethylene, carbon tetrachloride, and 1,2-dichloroethane: These chemicals cause cancer in mice and rats when given at very high doses over the animals' lifetime. They are therefore considered to be probable human carcinogens through long-term exposure.

Vinyl chloride and benzene: Exposure of people over long periods of time to these chemicals has resulted in an increased cancer risk and are therefore considered known human carcinogens.

1,1-Dichloroethylene and para-dichlorobenzene: These chemicals are a health concern to humans who are exposed to higher doses over long periods of time. Liver and kidney effects may result from chronic exposure. There is some, but not conclusive, evidence they may cause cancer in animals at high doses over the animals' lifetime.

1,1,1-Trichloroethane: This chemical is considered toxic to the liver, nervous system, and circulatory system of humans and laboratory animals when they are exposed at higher doses.

## ZINC

### SECONDARY MAXIMUM CONTAMINANT LEVEL - 5 mg/L

Zinc is an essential and beneficial element in human metabolism. The daily requirement for preschool children is 0.5 mg/kg, and the activity of several body enzymes is dependent on zinc. Individuals drinking water containing 24-41 mg/L of zinc experienced no harmful effects, and communities have used water containing 11-27 mg/L of zinc without reported harmful effects. Another report states that spring water containing 50 mg/L of zinc was used for a protracted period without harm.

Thus, zinc in water does not cause serious health effects. It does, however, produce a taste in water, described as "bitter" or "astringent" which could be detected by about 50% of the test panel at levels of around 30 mg/L and by about 5.0% of the test panel at levels of around 5 mg/L. To avoid any possibility of taste in drinking water from zinc, its concentration should not exceed 5 mg/L if a better quality water is or can be made available.

## APPENDIX F

### CHECKLIST OF PUBLIC NOTICE CONTENTS

The notice provides a clear and readily understandable explanation of the

1. violation/action
2. potential adverse health effects (mandatory health effects language)
3. population at risk
4. steps the system is taking to correct the violation
5. necessity of seeking alternative water supplies (if any)
6. preventive measures the consumer should take until the violation corrected

The notice

7. is clear and conspicuous in design
8. contains nontechnical language
9. uses print that is easily read
10. content creates no problems that would frustrate the purpose of public notification
11. contains the telephone number of the owner, operator, or designee of the waterworks as a source of additional information
12. contains multi-lingual information, where appropriate

NOTE: The circled numbers on the example correspond to items found in the checklist above. NA means not applicable in this situation.

FORMAT: Public Notice with Health Effects Language

July 1, 1991 Regional Water Authority

Upper Water System Encounters Delay in Lowering Nitrate Levels

Water From This Location Should Not Be Given To Children Under One Year Of Age

## SITUATION

STOP -

## GENERAL INFORMATION

The Regional Water Authority has announced a delay in installation of water treatment equipment. As a result:

Water available at this water system may be slightly higher in nitrates than recommended and should not be given to children under one year of age, or used in making baby formula.

Water measured at this water system contained 12 milligrams of nitrate per liter of water. That is slightly higher than the nitrate limit of 10 milligrams per liter, established by the State Health Department. The Authority has ordered special water treatment equipment that is designed to lower nitrate levels, and was scheduled to have the equipment installed by June. The Turnpike Authority was granted an exemption by the State Health Department to meet that deadline. However, because of installation delays, the equipment will not be installed until August. An application has been made to the State Health Department to approve that schedule.

## HEALTH INFORMATION

The United States Environmental Protection Agency (EPA) sets drinking water standards. Insert "Mandatory Language Here". Safe Water Available. Low nitrate, safe water is available free of charge from the Lucky Lady restaurant.

## INFORMATION

The Authority regrets the inconvenience. If you have questions regarding nitrates or the schedule for completing this work, please contact:

Bob Bullet  
Regional Water Authority  
(804) 555-4266

## MANDATORY HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION OF A VIOLATION OF PMCLs, TREATMENT TECHNIQUE REQUIREMENTS, THE GRANTING OF A VARIANCE OR EXEMPTION, OR SCHEDULE OF A VARIANCE OR EXEMPTION.

1. Trichloroethylene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that trichloroethylene is a health concern at certain levels of exposure. This chemical is a common metal cleaning and dry cleaning fluid. It generally gets into drinking water by improper waste

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disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set forth the enforceable drinking water standard for trichloroethylene at 0.005 mg/L to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

2. Carbon tetrachloride. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that carbon tetrachloride is a health concern at certain levels of exposure. This chemical was once a popular household cleaning fluid. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for carbon tetrachloride at 0.005 mg/L to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

3. 1,2-Dichloroethane. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 1,2-dichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaning fluid for fats, oils, waxes, and resins. It generally gets into drinking water from improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals may also increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for 1,2-dichloroethane at 0.005 mg/L to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

4. Vinyl chloride. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that vinyl chloride is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally get into drinking water by improper waste disposal. This chemical has been associated with significantly increased risks of cancer among certain industrial workers who were exposed to relatively large

amounts of this chemical during their working careers. This chemical has also been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes. Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for vinyl chloride at 0.002 mg/L to reduce the risk of cancer or other adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

5. Benzene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that benzene is a health concern at certain levels of exposure. This chemical is used as a solvent and degreaser of metals. It is also a major component of gasoline. Drinking water contamination generally results from leaking underground gasoline and petroleum tanks or improper waste disposal. This chemical has been associated with significantly increased risks of leukemia among certain industrial workers who were exposed to relatively large amounts of this chemical during their working careers. This chemical has also been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes. Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for benzene at 0.005 mg/L to reduce the risk of cancer or other adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

6. 1,1-Dichloroethylene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 1,1-dichloroethylene is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally get into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals which cause adverse health effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for 1,1-dichloroethylene at 0.007 mg/L to reduce the risk of these adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

7. **Para-dichlorobenzene.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that para-dichlorobenzene is a health concern at certain levels of exposure. This chemical is a component of deodorizers, moth balls, and pesticides. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed to high levels over their lifetimes. Chemicals which cause adverse effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for para-dichlorobenzene at 0.075 mg/L to reduce the risk of these adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

8. **1,1,1-Trichloroethane.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the 1,1,1-trichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaner and degreaser of metals. It generally gets into drinking water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetime. Some industrial workers who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the liver, nervous system, and circulatory system. Chemicals which cause adverse health effects among exposed industrial workers and in laboratory animals may also cause adverse health effects in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for 1,1,1-trichloroethane at 0.2 mg/L to protect against the risk of these adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

9. **Reserved Copper (as required in 12 VAC 5-590-540 A 2, 4, and 5.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that copper is a health concern at certain exposure levels. Copper, a reddish-brown metal, is often used to plumb residential and commercial structures that are connected to water distribution systems. Copper contaminating drinking water as a corrosion by-product occurs as the result of the corrosion of copper pipes that remain in contact with water for a prolonged period of time. Copper is an essential nutrient, but at high doses it has been shown to cause stomach and intestinal distress, liver and kidney damage, and anemia. Persons with Wilson's disease may be at a higher risk of health effects due to copper than the general public. The EPA's national primary drinking water regulation requires all public water systems to install optimal corrosion control to minimize

copper contamination resulting from the corrosion of plumbing materials. Public water systems serving 50,000 people or fewer that have copper concentrations below 1.3 parts per million (ppm) in more than 90% of tap water samples (the EPA "action level") are not required to install or improve their treatment. Any water system that exceeds the action level must also monitor their source water to determine whether treatment to remove copper in source water is needed.

10. **Lead (as required in 12 VAC 5-590-540 A 8).** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that lead is a health concern at certain levels of exposure. There is currently a standard of 0.050 mg/L. Based on new health information, EPA is likely to lower this standard significantly.

Part of the purpose of the lead notice (see 12 VAC 5-590-520 A 8) is to inform you of the potential adverse health effects of lead.

This is being done even though your water may not be in violation of the current standard. The EPA and others are concerned about lead in drinking water. Too much lead in the human body can cause serious damage to the brain, kidneys, nervous system, and red blood cells. The greatest risk, even with short term exposure, is to young children and pregnant women.

Lead levels in your drinking water are likely to be highest:

- a. if your home or water system has lead pipes, or
- b. if your home has copper pipes with lead solder, and
- c. if the home is less than five years old and built before 1988, or
- d. if you have soft or acidic water, or
- e. if water sits in the pipes for several hours.

The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that lead is a health concern at certain exposure levels. Materials that contain lead have frequently been used in the construction of water supply distribution systems, and plumbing systems in private homes and other buildings. The most commonly found materials include service lines, pipes, brass and bronze fixtures, and solders and fluxes. Lead in these materials can contaminate drinking water as a result of the corrosion that takes place when water comes into contact with those materials. Lead can cause a variety of adverse health effects in humans. At relatively low levels of exposure, these effects may include interference with red blood cell chemistry, delays in normal physical and mental development in babies and young children, slight deficits in the attention span, hearing, and learning abilities of children, and slight increases in the blood pressure of some adults. EPA's national primary drinking water regulation requires all public water systems to optimize corrosion control to minimize lead contamination resulting from the corrosion of plumbing

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*materials. Public water systems serving 50,000 people or fewer that have lead concentrations below 15 parts per billion (ppb) in more than 90% of tap water samples (the EPA "action level") have optimized their corrosion control treatment. Any water system that exceeds the action level must also monitor their source water to determine whether treatment to remove lead in source water is needed. Any water system that continues to exceed the action level after installation of corrosion control and/or source water treatment must eventually replace all lead service lines contributing in excess of 15 ppb of lead to drinking water. Any water system that exceeds the action level must also undertake a public education program to inform consumers of ways they can reduce their exposure to potentially high levels of lead in drinking water.*

11. **Mandatory Language for Total Coliform Violations.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of total coliforms is a possible health concern. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria in drinking water, however, generally is a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set an enforceable drinking water standard for total coliforms to reduce the risk of these adverse health effects. Under this standard, no more than 5.0% of the samples collected

12. **Mandatory Language For Fecal Coliform/E. coli Violation.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of fecal coliforms or E. coli is a serious health concern. Fecal coliforms and E. coli are generally not harmful themselves, but their presence in drinking water is serious because they usually are associated with sewage or animal wastes. The presence of these bacteria in drinking water is generally a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and associated headaches and fatigue. These symptoms, however, are not just associated with disease causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set an enforceable drinking water standard for fecal coliforms and E. coli to reduce the risk of these adverse health effects. Under this standard all drinking water samples must be free of these bacteria. Drinking water which meets this standard is associated with little or none of this risk and should be considered safe. The Virginia

Department of Health recommends that consumers take the following precautions:

(To be inserted by the waterworks according to instructions from State or local authorities.)

13. **Microbiological Contaminants** (for use when there is a violation of the treatment technique requirements for filtration and disinfection in Subpart II of this part). The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of microbiological contaminants are a health concern at certain levels of exposure. If water is inadequately treated, microbiological contaminants in that water may cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set enforceable requirements for treating drinking water to reduce the risk of those adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. Drinking water which is treated to meet EPA requirements is associated with little to none of this risk and should be considered safe.

14. (Reserved)

APPENDIX M  
LEAD AND COPPER

Table M1  
Monitoring Frequency for Initial Sampling Requirements

PWS Size	Monitoring Type	Location	No. Samples	Frequency
<b>Large PWSs</b> >100,000	Lead and Copper	Taps	100	6 months
	Water Quality Parameters	Distribution System	25	Twice per 6 months
	Source Water	Entry Points	1	6 months*
	Lead and Copper		1	Twice per 6 months
50,000-100,000	Water Quality Parameters			
	Lead and Copper	Taps	60	6 months
	Water Quality Parameters	Distribution System	10	Twice per 6 months
	Source Water	Entry Points	1	6 months*
<b>Medium PWSs</b> 10,001-50,000	Lead and Copper			
	Water Quality Parameters			
	Source Water	Taps	60	6 months
	Lead and Copper	Distribution System	10	Twice per 6 months
3,301-10,000	Water Quality Parameters	Entry Points	1	6 months
	Lead and Copper		1	Twice per 6 months
	Water Quality Parameters			
	Source Water	Taps	40	6 months
101-500	Lead and Copper	Distribution System	3	Twice per 6 months
	Water Quality Parameters	Entry Points	1	6 months
	Source Water		1	Twice per 6 months
	Lead and Copper			
<b>Small PWSs</b> 501-3,300	Water Quality Parameters			
	Source Water	Taps	20	6 months
	Lead and Copper	Distribution System	2	Twice per 6 months
	Water Quality Parameters	Entry Points	1	6 months
<100	Water Quality Parameters			
	Source Water			
	Lead and Copper	Taps	10	6 months
	Water Quality Parameters	Distribution System	1	Twice per 6 months
Nontransient Noncommunity Water Systems	Source Water	Entry Points	1	6 months
	Lead and Copper		1	Twice per 6 months
	Water Quality Parameters			
	Source Water	Taps	5	6 months
Nontransient Noncommunity Water Systems	Lead and Copper**	Distribution System	1	Twice per 6 months
	Water Quality Parameters	Entry Points	1	6 months
	Source Water			
	Lead and Copper			
Nontransient Noncommunity Water Systems	Water Quality Parameters	Taps	No more than one per building per monitoring period	
	Water Quality Parameters	Distribution System		

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\* If system wants to attempt to demonstrate optimization based on difference between source water levels and 90% tap level. Otherwise, one sample per entry point required if an AL is exceeded.

\*\*For lead and copper monitoring, 20% of the homes may be used in lieu of the required if there are less than 5 or 10 available sites, respectively.

## LEAD AND COPPER

Table M2

Monitoring Frequency for Follow-up and Routine Sampling Requirements

PWS Size	Monitoring Type	Location	No. Samples	Frequency		
<b>Large PWSs</b> >100,000	Lead and Copper Water Quality Parameters	Taps	100	6 months		
		Distribution System	25	Twice per 6 months		
	Source Water	Entry Points	Lead and Copper	1	6 months*	
			Water Quality Parameters	1	Biweekly	
	50,000-100,000	Lead and Copper Water Quality Parameters	Taps	60	6 months	
			Distribution System	10	Twice per 6 months	
Source Water		Entry Points	Lead and Copper	1	6 months*	
			Water Quality Parameters	1	Biweekly	
<b>Medium PWSs</b> 10,001-50,000	Lead and Copper Water Quality Parameters	Taps	60	6 months		
		Distribution System	10	Twice per 6 months		
	Source Water	Entry Points	Lead and Copper	1	6 months*	
			Water Quality Parameters	1	Biweekly	
	3,301-10,000	Lead and Copper Water Quality Parameters	Taps	40	6 months	
			Distribution System	3	Twice per 6 months	
Source Water		Entry Points	Lead and Copper	1	6 months*	
			Water Quality Parameters	1	Biweekly	
<b>Small PWSs</b> 501-3,300	Lead and Copper Water Quality Parameters	Taps	20	6 months		
		Distribution System	2	Twice per 6 months		
	Source Water	Entry Points	Lead and Copper	1	6 months*	
			Water Quality Parameters	1	Biweekly	
	101-500	Lead and Copper Water Quality Parameters	Taps	10	6 months	
			Distribution System	1	Twice per 6 months	
		Source Water	Entry Points	Lead and Copper	1	6 months
				Water Quality Parameters	1	Biweekly
	<100	Lead and Copper** Water Quality Parameters	Taps	5	6 months	
			Distribution System	1	Twice per 6 months	
		Source Water	Entry Points	Lead and Copper	1	6 months*
				Water Quality Parameters	1	Biweekly
<b>Nontransient, Noncommunity Water Systems</b>	Lead and Copper Water Quality Parameters	Taps Distribution System	No more than one per building per monitoring period			

\* If source water treatment installed; otherwise, see reduce monitoring requirements

\*\*For lead and copper monitoring, 20% of the homes may be used in lieu of the required if there are less than 5 or 10 available sites, respectively.

LEAD AND COPPER

Table M3 Monitoring Frequency for Reduced Sampling Requirements

PWS Size	Monitoring Type	Reduced* Monitoring	Ultimate Reduced** Monitoring
<b>Large PWSs</b> >100,000	Lead and Copper Water Quality Parameters Points of Entry	50 per year 10 twice per 6 months	50 per 3 years 10 twice per year
	Lead and Copper Groundwater Supply Surface Water Supply Water Quality Parameters	1 per 3 years Annually Biweekly	1 per 9 years 1 per 9 years Biweekly
50,001-100,000	Lead and Copper Water Quality Parameters Points of Entry	30 per year 7 twice per 6 months	30 per 3 years 7 twice per year
	Lead and Copper Groundwater Supply Surface Water Supply Water Quality Parameters	1 per 3 years Annually Biweekly	1 per 9 years 1 per 9 years Biweekly
<b>Medium PWSs</b> 10,001-50,000	Lead and Copper Water Quality Parameters Points of Entry	30 per year 7 twice per 6 months	30 per 3 years 7 twice per year
	Lead and Copper Groundwater Supply Surface Water Supply Water Quality Parameters	1 per 3 years Annually Biweekly	1 per 9 years 1 per 9 years Biweekly
3,301-10,000	Lead and Copper Water Quality Parameters Points of Entry	20 per year 3 twice per 6 months	20 per 3 years 3 twice per year
	Lead and Copper Groundwater Supply Surface Water Supply Water Quality Parameters	1 per 3 years Annually Biweekly	1 per 9 years 1 per 9 years Biweekly
<b>Small PWSs</b> 501-3,300	Lead and Copper Water Quality Parameters Points of Entry	10 per year 2 twice per 6 months	10 per 3 years 2 twice per year
	Lead and Copper Groundwater Supply Surface Water Supply Water Quality Parameters	1 per 3 years Annually Biweekly	1 per 9 years 1 per 9 years Biweekly
101-500	Lead and Copper Water Quality Parameters Points of Entry	5 per year 1 twice per 6 months	5 per 3 years 1 twice per year
	Lead and Copper Groundwater Supply Surface Water Supply Water Quality Parameters	1 per 3 years Annually Biweekly	1 per 9 years 1 per 9 years Biweekly
<100	Lead and Copper Water Quality Parameters Points of Entry	5 per year 1 twice per 6 months	5 per 3 years 1 twice per year
	Lead and Copper Groundwater Supply Surface Water Supply Water Quality Parameters	1 per 3 years Annually Biweekly	1 per 9 years 1 per 9 years Biweekly

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Table M4

*SUMMARY OF MONITORING REQUIREMENTS FOR WATER QUALITY PARAMETERS<sup>1</sup>*

<i>Monitoring Period</i>	<i>Parameters<sup>2</sup></i>	<i>Location</i>	<i>Frequency</i>
Initial Monitoring	pH, alkalinity, orthophosphate or silica, <sup>3</sup> calcium, conductivity, temperature	Taps and at entry point(s) to distribution system	Every 6 months
After Installation of Corrosion Control	pH, alkalinity, orthophosphate or silica, <sup>3</sup> calcium <sup>4</sup>	Taps	Every 6 months
	pH, alkalinity dosage rate and concentration (if alkalinity adjusted as part of corrosion control), inhibitor dosage rate and inhibitor residual <sup>5</sup>	Entry point(s) to distribution system	Biweekly
After State Specifies Parameter Values For Optimal Corrosion Control	pH, alkalinity, orthophosphate or silica, <sup>3</sup> calcium <sup>4</sup>	Taps	Every 6 months
	pH, alkalinity dosage rate and concentration (if alkalinity adjusted as part of corrosion control), inhibitor dosage rate and inhibitor residual <sup>5</sup>	Entry point(s) to distribution system	Biweekly
Reduced Monitoring	pH, alkalinity, orthophosphate or silica, <sup>3</sup> calcium <sup>4</sup>	Taps	Every six months at a reduced number of sites
	pH, alkalinity dosage rate and concentration (if alkalinity adjusted as part of corrosion control), inhibitor dosage rate and inhibitor residual <sup>5</sup>	Entry point(s) to distribution system	Biweekly

<sup>1</sup>Table is for illustrative purposes; consult the text of this section for precise regulatory requirements.

<sup>2</sup>Small and medium-size systems have to monitor for water quality parameters only during monitoring periods in which the system exceeds the lead or copper action level.

<sup>3</sup>Orthophosphate must be measured only when an inhibitor containing a phosphate compound is used. Silica must be measured only when an inhibitor containing silicate compound is used.

<sup>4</sup>Calcium must be measured only when calcium carbonate stabilization is used as part of corrosion control.

<sup>5</sup>Inhibitor dosage rates and inhibitor residual concentrations (orthophosphate or silica) must be measured only when an inhibitor is used.

VA.R. Doc. No. R96-34; Filed September 27, 1995, 10:50 a.m.

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Title of Regulation: [ ~~VR 355-18-000~~ **12 VAC 5-590-10 et seq.** ] **Waterworks Regulations** (amendments to [ ~~VR 355-18-001.02, VR 355-18-004.04, VR 355-18-004.06, VR 355-18-004.07, VR 355-18-004.08, VR 355-18-004.09, VR 355-18-004.11, VR 355-18-009.13, 12 VAC 5-590-10, 12 VAC 5-590-370, 12 VAC 5-590-390, 12 VAC 5-590-400, 12 VAC 5-590-410, 12 VAC 5-590-420, 12 VAC 5-590-440, 12 VAC 5-590-970,~~ ] and Appendices B, F and N relating to Phases II, IIB, and V).

Statutory Authority: §§ 32.1-12 and 32.1-170 of the Code of Virginia.

Effective Date: November 15, 1995.

Summary of Public Comment and Agency 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.

Agency Contact: Copies of the regulation may be obtained from Monte J. Waugh, Technical Services Assistant, Division of Water Supply Engineering, Department of Health, P. O. Box 2448, Richmond, Virginia 23219, telephone (804) 786-5566.

Summary:

*The Virginia Department of Health is the delegated state agency for primary enforcement authority (primacy) for the federal Safe Drinking Water Act and must meet certain United States Environmental Protection Agency mandates to retain this authority. These amendments to the existing Waterworks Regulations incorporate the federal Safe Drinking Water Act Phase II, IIB, and V Rules. These amendments consist of maximum contaminant levels, reporting, public notification, treatment technique and monitoring requirements for 13 new volatile organic chemicals, four revised and 24 new synthetic organic chemicals, three revised and nine new inorganic chemicals, and 11 new unregulated chemicals. These regulations follow the United States Environmental Protection Agency's standardized monitoring requirements with a nine-year compliance cycle broken into three three-year compliance periods. The monitoring requirements also define the locations and frequency with which the waterworks owners must comply. The amendments conform the state program to federal law and should avoid duplicative enforcement action by the United States Environmental Protection Agency under federal law.*

**12 VAC 5-590-10. Definitions.**

As used in this chapter, the words and terms hereinafter set forth shall have meanings respectively set forth unless the context clearly requires a different meaning.

"*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.

"*Annual daily water demand*" means the average rate of daily water usage over at least the most recent three-year period.

"*Applied water*" means water that is ready for filtration.

"*Approved*" means material, equipment, workmanship, process or method that has been accepted by the division as suitable for the proposed use.

"*Auxiliary water system*" means any water system on or available to the premises other than the waterworks. These auxiliary waters may include water from a source such as wells, lakes, or streams; or process fluids; or used water. They may be polluted or contaminated or objectionable, or constitute an unapproved water source or system over which the water purveyor does not have control.

"*Backflow*" means the flow of water or other liquids, mixtures, or substances into the distribution piping of a waterworks from any source or sources other than its intended source.

"*Backflow prevention device*" means any approved device, method, or type of construction intended to prevent backflow into a waterworks.

"*Best available technology (BAT)*" means the best technology, treatment techniques, or other means which the commissioner finds, after examination for efficacy under field conditions and not solely under laboratory conditions and in conformance with applicable EPA regulations, 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.

"*Chlorine*" means dry chlorine.

"*Chlorine gas*" means dry chlorine in the gaseous state.

"*Chlorine solution (chlorine water)*" means a solution of chlorine in water. Note: the term chlorine solution is sometimes used to describe hypochlorite solutions. This use of the term is incorrect.

"*Coagulation*" means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.

"*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.

"*Commissioner*" means the State Health Commissioner.

"*Community water system*" means a waterworks which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

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*"Compliance cycle"* means the nine-year calendar year cycle during which a waterworks must monitor. Each compliance cycle consists of three three-year compliance periods. The first calendar year cycle begins January 1, 1993, and ends December 31, 2001; the second begins January 1, 2002, and ends December 31, 2010; the third begins January 1, 2011, and ends December 31, 2019.

*"Compliance period"* means a three-year calendar year period within a compliance cycle. Each compliance cycle has 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.

*"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 which has no water production or source facility of its own and which obtains all of its water from another permitted waterworks.

*"Consumer"* means any person who drinks water 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.

*"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.

*"Cross connection"* means any connection or structural arrangement, direct or indirect, to the waterworks whereby backflow can occur.

*"CT"* or *"CTcalc"* 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.

*"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 added to water in any part of the treatment or distribution process for the purpose of killing or deactivating 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 which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

*"Distribution main"* means a water main whose primary purpose is to provide treated water to service connections.

*"Division"* means the Commonwealth of Virginia, Department of Health, Division of Water Supply Engineering.

*"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.

*"Domestic use or usage"* means normal family or household use, including drinking, laundering, bathing, cooking, heating, cleaning and flushing toilets (see Article 2 (§ 32.1-167 et seq.) of Chapter 6 of Title 32.1 of the Code of Virginia).

*"Double gate-double check valve assembly"* means an approved assembly composed of two single independently acting check valves including tightly closing shutoff valves located at each end of the assembly and petcocks and test gauges for testing the watertightness of each check valve.

*"Entry point"* means the place where water from the source after application of any treatment is delivered to the distribution system.

*"Equivalent residential connection"* means a volume of water used equal to a residential connection which is 400 gallons per day unless supportive data indicates otherwise.

*"Exception"* means an approved deviation from a "shall" criteria contained in Part III of this chapter.

*"Exemption"* means a conditional waiver of a specific PMCL or treatment technique requirement which is granted to a specific waterworks for a limited period of time.

*"Filtration"* means a process for removing particulate matter from water by passage through porous media.

*"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.

*"Free available chlorine"* means that portion of the total residual chlorine remaining in water at the end of a specified contact period which will react chemically and biologically as hypochlorous acid or hypochlorite ion.

"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.

"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 under the direct influence of surface water" 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 (ii) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence of surface water will be determined by the division in accordance with 12 VAC 5-590-430.

"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 which include all primary maximum contaminant levels, treatment technique requirements, and all operational regulations, the violation of which would jeopardize the public health.

"Hypochlorite" means a solution of water and some form of chlorine, usually sodium hypochlorite.

"Initial compliance period" means [ ~~the first full three-year compliance period which begins January 1993, except 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 [ which shall begin January 1993 ]. [ ~~The initial compliance period for waterworks with 150 or more service connections begins January 1993, and first full three-year compliance period for waterworks having fewer than 150 service connections begins January 1996.~~ ]

"Interchangeable connection" means an arrangement or device that will allow alternate but not simultaneous use of two sources of water.

"Karstian geology" means an area predominantly underlain by limestone, dolomite, or gypsum and characterized by rapid underground drainage. Such 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.

"*Legionella*" means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

"Liquid chlorine" means a liquefied, compressed gas as shipped in commerce. Note: The term liquid chlorine is sometimes used to describe a hypochlorite solution often employed for swimming pool sanitation. This use of the term is incorrect.

"Log inactivation (log removal)" means that a 99.9% reduction is a 3-log inactivation; a 99.99% reduction is a 4-log inactivation.

"Man-made 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.

"Maximum daily water demand" means the rate of water usage during the day of maximum water use.

"Maximum contaminant level (MCL)" means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a waterworks, except in the cases of turbidity and VOCs, where the maximum permissible level is measured at each entry point to the distribution system. Contaminants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition. Maximum contaminant levels may be either "primary" (PMCL), meaning based on health considerations or "secondary" (SMCL) meaning based on aesthetic considerations.

"Maximum total trihalomethane potential (MTP)" means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after seven days at a temperature of 25°C or above.

"Most probable number (MPN)" means that 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.

"Noncommunity water system" 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 water system (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.

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"One hundred (100) year flood level" means the flood elevation which will, over a long period of time, be equaled or exceeded on the average once every 100 years.

"Operator" means any individual employed or appointed by any owner, and who is designated by such owner to be the person in responsible charge, such as a supervisor, a shift operator, or a substitute in charge, and whose duties include 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.

"Owner" or "water purveyor" means an individual, group of individuals, partnership, firm, association, institution, corporation, governmental entity, or the federal government which supplies or proposes to supply water to any person within this state 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).

"Picocurie (pCi)" means that quantity of radioactive material producing 2.22 nuclear transformations per minute.

"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 (POE)" 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.

"Point-of-use treatment device (POU)" 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 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.

"Post-chlorination" means the application of chlorine to water subsequent to treatment.

"Prechlorination" means the application of chlorine to water prior to filtration.

"Process fluids" means any fluid or solution which may be chemically, biologically, or otherwise contaminated or polluted which would constitute a health, pollutional, or system hazard if introduced into the waterworks. This includes, but is not limited to:

1. Polluted or contaminated water,
2. Process waters,
3. Used waters, originating from the waterworks which 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 fire fighting purposes.

"Pure water" or "potable water" means water fit for human consumption and domestic use which is sanitary and normally free of minerals, organic substances, and toxic agents in excess of reasonable amounts for domestic usage in the area served and normally 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 which conveys untreated water from a source to a treatment facility.

"Reduced pressure principle backflow prevention device (RPZ device)" 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. 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 must include tightly closing shut-off valves located at each end of the device, and each device shall be fitted with properly located test cocks. These devices must 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) is 1/1000 of a 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 piping and fixtures, such as sinks, lavatories, showers, and toilets, supplied with potable water and drained by wastewater piping.

"Sanitary survey" means an investigation of any condition that may affect public health.

"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.

"Sedimentation" means a process for removal of solids before filtration by gravity or separation.

"Service connection" means the point of delivery of water to a customer's building service line as follows:

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.

"Sewer" means any pipe or conduit used to convey sewage or industrial waste streams.

"Slow sand filtration" means a process involving passage of raw 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.

"Standard sample" means that portion of finished drinking water that is examined for the presence of coliform bacteria.

"Surface water" means all water open to the atmosphere and subject to surface runoff.

"Synthetic organic chemicals (SOC)" means one of the family of organic man-made compounds generally utilized for agriculture or industrial purposes.

"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.

"Too numerous to count" 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 12 VAC 5-590-690 C to the highest elevation served within that reservoir's service area under system wide maximum daily water demand.

"Total trihalomethanes (TTHM)" means the sum of the concentrations of the trihalomethanes expressed in milligrams per liter (mg/L) and rounded to two significant figures. For the purpose of these regulations, the TTHM's shall mean trichloromethane (chloroform), dibromochloromethane, bromodichloromethane, and tribromomethane (bromoform).

"Transmission main" means a water main whose primary purpose is to move significant quantities of treated water among service areas.

"Treatment technique requirement" means a requirement which specifies for a contaminant a specific treatment technique(s) demonstrated to the satisfaction of the division to lead to a reduction in the level of such contaminant sufficient to comply with these regulations.

"Trihalomethane (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.

"Unregulated contaminant (UC)" means a contaminant for which a monitoring requirement has been established, but for which no MCL or treatment technique requirement has been established.

"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.

"Virus" means a virus of fecal origin which is infectious to humans by waterborne transmission.

"Variance" means a conditional waiver of a specific regulation which is granted to a specific waterworks. 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. Variances for monitoring, reporting and public notification requirements will not be granted.

"Volatile synthetic organic chemical (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.

"Waterborne disease outbreak" means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a waterworks which is deficient in treatment, as determined by the commissioner or the State Epidemiologist.

"Water purveyor" (same as owner)

"Water supply" means water that shall have been taken into a waterworks from all wells, streams, springs, lakes, and other bodies of surface waters (natural or impounded), and the tributaries thereto, and all impounded groundwater, but the term "water supply" shall not include any waters above the point of intake of such 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.

"Waterworks" means a system that serves piped water for drinking or domestic use to (i) the public, (ii) at least 15 connections, or (iii) an average of 25 individuals for at least 60 days out of the year. The term "waterworks" shall include all structures, equipment and appurtenances used in the storage, collection, purification, treatment and distribution of pure water except the piping and fixtures inside the building where such water is delivered (see Article 2 (§ 32.1-167 et seq.) of Chapter 6 of Title 32.1 of the Code of Virginia).

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"Waterworks with a single service connection" means a waterworks which supplies drinking water to consumers via a single service line.

## 12 VAC 5-590-370. Sampling frequency.

The division 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) and trihalomethanes (subdivision B 2 3 of this section). The required sampling frequencies are as follows:

### A. Bacteriological.

1. The waterworks owner shall collect total coliform samples at sites which are representative of water throughout the distribution system according to a written sample siting report. The report shall be established or approved by the division after investigation of the source, method of treatment and storage, and protection of the water concerned. The report must include, but is not limited to, the following:

- a. The frequency of sampling distributed evenly throughout the month/quarter,
- b. Distribution map showing the generalized location where specific sampling sites will be selected,
- c. Supporting statement explaining how specific individual sites are selected, how sampling will be rotated among the sites, how repeat samples will be collected and other information demonstrating that sampling will be conducted in a manner to comply with this chapter.
- d. Adequate sampling points to provide sampling representative of all the conditions in the system,
- e. For small systems (less than 3,301 population), sample sites must also be identified by address and code number location,
- f. Minimum of three sample locations for each sample required monthly so repeat sample locations are previously ascertained as being adequate in number and five customer service connections upstream and downstream. (See Appendix J for an example.)
- g. The sampling point required to be repeat sampled shall not be eliminated from future collections based on a history of questionable water quality unless the sampling point is unacceptable as determined by the division.

2. The minimum number of bacteriological samples for total coliform evaluation to be collected and analyzed monthly from the distribution system of a community or nontransient noncommunity waterworks shall be in accordance with Table 2.1. All noncommunity waterworks that use a surface water source or a groundwater source under the direct influence of surface water, and all large noncommunity (serving 1000 or more persons per day) waterworks, shall collect and submit samples monthly for analysis in accordance with Table 2.1. All other noncommunity waterworks shall submit

samples for analysis each calendar quarter in accordance with Table 2.1.

3. The samples shall be taken at reasonably evenly spaced time intervals throughout the month or quarter.

If the results of a sanitary survey or other factors determine that some other frequency is more appropriate than that stated above, a modified sampling program report may be required. The altered frequency shall be confirmed or changed on the basis of subsequent surveys.

4. All bacteriological analyses shall be performed in accordance with 12 VAC 5-590-440 by the DCLS or by a laboratory certified by DCLS for drinking water samples.

TABLE 2.1

POPULATION SERVED PER DAY:	MINIMUM NUMBER OF SAMPLES
25 to 1,000	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

B. Chemical. The location of sampling points, the chemicals measured, and the frequency, and the timing of sampling *within each compliance period* shall be established or approved by the division commissioner. The commissioner may increase required monitoring where necessary to detect variations within the waterworks. Composite sampling for Analysis of field composite samples shall not be allowed. Samples for contaminants that may exhibit seasonal variations shall be collected during the period of the year when contamination is most likely to occur.

Failure to comply with the sampling schedules in this section will require public notification pursuant to 12 VAC 5-590-540. ~~Special sampling requirements for specific chemical contaminants are specified in 12 VAC 5-590-370 B 2 through 12 VAC 5-590-370 B 7.~~

1. ~~The minimum number of samples required for those chemicals listed in Tables 2.2 and 2.3 shall be as follows:~~ *Inorganic chemical.* Community and nontransient noncommunity waterworks owners shall conduct monitoring to determine compliance with the PMCLs in Table 2.2 in accordance with this section. All other noncommunity waterworks owners shall conduct monitoring to determine compliance with the nitrate and nitrite PMCLs in Table 2.2 (as appropriate) in accordance with this section. Monitoring shall be conducted as follows:

a. ~~One distribution system sample per year for all systems with surface water sources.~~ The owner of any groundwater source waterworks with 150 or more service connections shall take a minimum of one sample at each entry point to the distribution system which is representative of each source, after treatment, [ unless a change in condition makes another sampling point more representative of each source or treatment plant ] (hereafter called a sampling point) starting in the compliance period beginning January 1, 1993. The owner of any groundwater source waterworks with fewer than 150 service connections shall take a minimum of one sample at each sampling point for asbestos, barium, cadmium, chromium, fluoride, mercury, nitrate, nitrite, and selenium in the compliance period beginning January 1, 1993, and for antimony, beryllium, cyanide (as free cyanide), nickel, and thallium in the compliance period beginning January 1, 1996.

b. ~~One distribution system sample every three years for community and nontransient noncommunity systems with groundwater sources.~~ The owner of any waterworks which uses a surface water source in whole or in part with 150 or more service connections shall take a minimum of one sample at each entry point to the distribution system after any application of treatment or in the distribution system at a point which is representative of each source, after treatment, [ unless a change in conditions makes another sampling point more representative of each source or treatment plant ] (hereafter called a sampling point) beginning January 1, 1993. The owner of any waterworks which use a surface water source in whole or in part with fewer than 150 service connections shall take a minimum of one sample at each sampling point for asbestos, barium, cadmium, chromium, fluoride, mercury, nitrate, nitrite, and selenium beginning January 1, 1993, and for antimony, beryllium, cyanide (as free cyanide), nickel, and thallium beginning January 1, 1996.

c. ~~One distribution system sample every five years for nitrate for all other noncommunity systems.~~ If a waterworks draws water from more than one source and the sources are combined before distribution, the

waterworks 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).

d. The frequency of monitoring for asbestos shall be in accordance with subdivision B 1 d (1) of this section; the frequency of monitoring for barium, cadmium, chromium, fluoride, mercury, and selenium shall be in accordance with subdivision B 1 d (2) of this section; the frequency of monitoring for antimony, beryllium, cyanide (as free cyanide), nickel, and thallium shall be in accordance with subdivision B 1 d (3) of this section; the frequency of monitoring for nitrate shall be in accordance with subdivision B 1 d (4) of this section; the frequency of monitoring for nitrite shall be in accordance with subdivision B 1 d (5) of this section; and the frequency of monitoring for arsenic shall be in accordance with subdivision B 1 d (6) of this section.

(1) The frequency of monitoring conducted to determine compliance with the PMCL for asbestos specified in Table 2.2 shall be conducted as follows:

(a) The owner of each community and nontransient noncommunity waterworks is required to monitor for asbestos during the first three-year compliance period of each nine-year compliance cycle beginning in the compliance period starting January 1, 1993.

(b) If the waterworks owner believes the waterworks is not vulnerable to either asbestos contamination in its source water or due to corrosion of asbestos-cement pipe, or both, the owner may apply to the commissioner for a waiver of the monitoring requirement in subdivision B 1 d (1)(a) of this section. If the commissioner grants the waiver, the waterworks owner is not required to monitor.

(c) The commissioner may grant a waiver based on a consideration of the following factors:

(i) Potential asbestos contamination of the water source, and

(ii) 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 three-year compliance period. Waterworks not receiving a waiver shall monitor in accordance with the provisions of subdivision B 1 d (1)(a) of this section.

(e) The owner of a waterworks vulnerable to asbestos contamination due solely to corrosion of asbestos-cement pipe shall take one sample at a tap served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

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(f) The owner of a waterworks vulnerable to asbestos contamination due solely to source water shall monitor sampling points in accordance with subdivision B 1 of this section.

(g) The owner of a waterworks vulnerable to asbestos contamination due both to its source water supply and corrosion of asbestos-cement pipe shall take one sample at a tap served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

(h) The owner of a waterworks which exceeds the PMCL as determined in 12 VAC 5-590-410 B 1 shall monitor quarterly beginning in the next quarter after the violation occurred.

(i) The commissioner may decrease the quarterly monitoring requirement to the frequency specified in subdivision B 1 d (1)(a) of this section provided the commissioner has determined that the waterworks is reliably and consistently below the PMCL. In no case can the commissioner make this determination unless the owner of a groundwater source waterworks takes a minimum of two quarterly samples or the owner of a waterworks which uses a surface water source in whole or in part takes a minimum of four quarterly samples.

(j) If monitoring data collected after January 1, 1990, are generally consistent with the requirements of subdivision B 1 d (1) of this section, then the commissioner may allow waterworks owner to use that data to satisfy the monitoring requirement for the initial compliance period beginning January 1, 1993.

(2) The frequency of monitoring conducted to determine compliance with the PMCLs in Table 2.2 for barium, cadmium, chromium, fluoride, mercury, [ and ] selenium [ ~~and thallium~~ ] shall be as follows:

(a) The owner of a groundwater source waterworks shall take one sample at each sampling point during each compliance period beginning in the compliance period starting January 1, 1993.

(b) The owner of a waterworks which uses a surface water source in whole or in part shall take one sample annually at each sampling point beginning January 1, 1993.

(c) A waterworks owner may apply to the commissioner for a waiver from the monitoring frequencies specified in subdivision B 1 d (2) (a) or (b) of this section.

(d) A condition of the waiver shall require that the waterworks owner shall take a minimum of one sample while the waiver is effective. The term during which the waiver is effective shall not exceed one compliance cycle (i.e., nine years).

(e) The commissioner may grant a waiver provided the owner of a waterworks which uses a surface water source in whole or in part has monitored annually for at least three years and groundwater waterworks have conducted a minimum of three rounds of monitoring. (At least one sample shall have been taken since January 1, 1990.) The owner of any waterworks which uses a surface water source in whole or in part or a groundwater source waterworks shall demonstrate that all previous analytical results were less than the PMCL. Waterworks that use a new water source are not eligible for a waiver until three rounds of monitoring from the new source have been completed.

(f) In determining the appropriate reduced monitoring frequency, the commissioner shall consider:

(i) Reported concentrations from all previous monitoring;

(ii) The degree of variation in reported concentrations; and

(iii) Other factors which 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.

(g) A decision by the commissioner 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 commissioner or upon an application by the waterworks owner. The owner shall specify the basis for the request. The commissioner shall review and, where appropriate, revise the determination of the appropriate monitoring frequency when the waterworks owner submits new monitoring data or when other data relevant to the waterworks appropriate monitoring frequency become available.

(h) Owners of waterworks which exceed the PMCLs as calculated in 12 VAC 5-590-410 shall monitor quarterly beginning in the next quarter after the violation occurred.

(i) The commissioner may decrease the quarterly monitoring requirement to the frequencies specified in subdivision B 2 d (2)(a), (2)(b) or (2)(c) of this section provided a determination has been made that the waterworks is reliably and consistently below the PMCL. In no case can the commissioner make this determination unless the owner of a groundwater source waterworks takes a minimum of two quarterly samples or the owner of a waterworks which uses a surface water source in whole or in part takes a minimum of four quarterly samples.

(3) The frequency of monitoring conducted to determine compliance with the PMCLs in Table 2.2 for antimony, beryllium, cyanide (as free cyanide), nickel, and thallium shall be as follows:

(a) The owner of a groundwater source waterworks with 150 or more service connections shall take one sample at each sampling point during each compliance period beginning in the compliance period starting January 1, 1993. The owner of a groundwater source waterworks with fewer than 150 service connections shall take one sample at each sampling point during each compliance period beginning in the compliance period starting January 1, 1996.

(b) The owner of a waterworks which uses a surface water source in whole or in part with 150 or more service connections shall take one sample annually at each sampling point beginning January 1, 1993. The owner of a waterworks which uses a surface water source in whole or in part with fewer than 150 service connections shall take one sample annually at each sampling point beginning January 1, 1996.

(c) A waterworks owner may apply to the commissioner for a waiver from the monitoring frequencies specified in subdivision B 2 d (3)(a) or (3)(b) of this section.

(d) A condition of the waiver shall require that the waterworks owner shall take a minimum of one sample while the waiver is effective. The term during which the waiver is effective shall not exceed one compliance cycle (i.e., nine years).

(e) The commissioner may grant a waiver provided the owner of a waterworks which uses a surface water source in whole or in part has monitored annually for at least three years and groundwater waterworks have conducted a minimum of three rounds of monitoring. (At least one sample shall have been taken since January 1, 1990.) The owner of any waterworks which uses a surface water source in whole or in part or a groundwater source waterworks shall demonstrate that all previous analytical results were less than the PMCL. Waterworks that use a new water source are not eligible for a waiver until three rounds of monitoring from the new source have been completed.

(f) In determining the appropriate reduced monitoring frequency, the commissioner shall consider:

(i) Reported concentrations from all previous monitoring;

(ii) The degree of variation in reported concentrations; and

(iii) Other factors which 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.

(g) A decision by the commissioner 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 commissioner or upon an application by the waterworks owner. The owner shall specify the basis for the request. The commissioner shall review and, where appropriate, revise the determination of the appropriate monitoring frequency when the waterworks owner submits new monitoring data or when other data relevant to the waterworks appropriate monitoring frequency become available.

(h) Owners of waterworks which exceed the PMCLs as calculated in 12 VAC 5-590-410 shall monitor quarterly beginning in the next quarter after the violation occurred.

(i) The commissioner may decrease the quarterly monitoring requirement to the frequencies specified in subdivision B 2 d(3)(a), (3)(b) or (3)(c) of this section provided a determination has been made that the waterworks is reliably and consistently below the PMCL. In no case can the commissioner make this determination unless the owner of a groundwater source waterworks takes a minimum of two quarterly samples or the owner of a waterworks which uses a surface water source in whole or in part takes a minimum of four quarterly samples.

(4) All community, nontransient noncommunity and noncommunity waterworks owners shall monitor to determine compliance with the PMCL for nitrate in Table 2.2.

(a) Owners of community and nontransient noncommunity waterworks which use a groundwater source shall monitor annually beginning January 1, 1993.

(b) Owners of [ community and nontransient noncommunity ] waterworks which use a surface water source in whole or in part shall monitor quarterly beginning January 1, 1993.

(c) For community and nontransient noncommunity waterworks which use groundwater, the repeat monitoring frequency shall be quarterly for at least one year following any one sample in which the concentration is  $\geq 50\%$  of the PMCL. The commissioner may allow the owner of a waterworks, which uses groundwater, to reduce the sampling frequency to annually after four consecutive quarterly samples are reliably and consistently less than the PMCL.

(d) For community and nontransient noncommunity waterworks, the commissioner may allow the owner of a waterworks which uses

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a surface water source in whole or in part, to reduce the sampling frequency to annually if all analytical results from four consecutive quarters are <50% of the PMCL. Such waterworks shall return to quarterly monitoring if any one sample is ≥50% of the PMCL.

(e) The owners of all other noncommunity waterworks shall monitor annually beginning January 1, 1993.

(f) After the initial round of quarterly sampling is completed, the owner of each community and nontransient noncommunity waterworks which is monitoring annually shall take subsequent samples during the quarter(s) which previously resulted in the highest analytical result.

(5) All community, nontransient noncommunity and noncommunity waterworks owners shall monitor to determine compliance with the PMCL for nitrite in Table 2.2.

(a) All waterworks owners shall take one sample at each sampling point in the compliance period beginning January 1, 1993.

(b) After the initial sample, the owner of any waterworks where an analytical result for nitrite is <50% of the PMCL shall monitor at the frequency [ ~~of once each compliance cycle specified by the commissioner~~ ].

(c) The repeat monitoring frequency for any waterworks owner shall be quarterly for at least one year following any one sample in which the concentration is ≥50% of the PMCL. The commissioner may allow a waterworks owner to reduce the sampling frequency to annually after determining the analysis results are reliably and consistently less than the PMCL.

(d) Owners of waterworks which are monitoring annually shall take each subsequent sample during the quarter(s) which previously resulted in the highest analytical result.

(6) The frequency of monitoring conducted to determine compliance with the PMCLs in Table 2.2 for arsenic shall be as follows:

(a) The owner of each community waterworks which use a surface water source in whole or in part shall take one sample annually at each sampling point beginning June 1, 1978.

(b) The owner of each community groundwater waterworks shall take one sample at each sampling point within a three year period starting June 1, 1979.

(c) Owners of waterworks which exceed the PMCL listed in Table 2.2 shall report to the commissioner within seven days and initiate three additional samples at the same sampling point within one month.

(d) For initial analyses required by subdivision B 1 d (6)(a) or (b) of this section, data for waterworks which use surface water source in whole or in part acquired within one year prior to the effective date for arsenic monitoring and data for groundwater waterworks acquired within three years prior to the effective date for arsenic monitoring may be substituted at the discretion of the commissioner.

~~2. Trihalomethanes. Samples for TTHM analyses shall be collected quarterly from all community and nontransient noncommunity waterworks which disinfect and serve 10,000 or more individuals. At least four samples for each treatment plant used by the waterworks must be collected using the following criteria: at least 25% of the samples shall be taken at locations within the distribution system reflecting the maximum residence time of the water in the system. The remaining 75% shall be taken at representative locations in the distribution system, taking into account the number of persons served, different sources of water and different treatment methods employed. Sample locations shall be approved by the division.~~

~~a. Community and nontransient noncommunity waterworks utilizing surface water in whole or in part, may, upon written request, have the monitoring frequency reduced by the division to a minimum of one sample per quarter taken at a point of maximum residence time of the water in the distribution system. The division must make a written determination that data from at least one year of monitoring and local conditions indicate that TTHM concentrations will be consistently below the PMCL.~~

~~If at any time in the reduced monitoring program the results from any analysis exceed the PMCL for TTHMs and such results are confirmed by at least one check sample taken promptly after such results are received, or if the waterworks makes any significant change to its source of water or treatment program, the waterworks shall immediately begin monitoring in accordance with 12 VAC 5-590-370 B 2. Routine monitoring must continue for at least one year before a reduced monitoring frequency can be implemented again.~~

~~b. Community and nontransient noncommunity waterworks utilizing groundwaters only, may, upon written request, have the monitoring frequency reduced to a minimum of one sample per year for TTHM. This sample shall be collected at a point in the distribution system reflecting the maximum residence time of the water. The division must make a written determination that the data indicates the system has a TTHM concentration of less than the PMCL and local conditions indicate that TTHM concentrations will be consistently below the PMCL.~~

~~If at any time in the reduced monitoring program the results from any TTHM exceed or equal the PMCL and such results are confirmed by at least one check sample taken promptly after such results are received, the waterworks shall immediately begin monitoring in~~

accordance with 12 VAC 5-590-370 B 2. Routine monitoring must continue for at least one year before a reduced monitoring frequency can be implemented again.

If any significant change occurs in the raw water or if the waterworks treatment process is altered, an additional sample for TTHM shall be analyzed immediately to determine whether the waterworks must comply with the monitoring requirements of 12 VAC 5-590-370 B 2. The sample shall be collected at a point in the distribution system reflecting the maximum residence time of the water.

c. Nothing shall prevent the division from requiring additional samples for TTHM or MTP analysis when conditions warrant.

d. Nothing shall prevent the TTHM regulations from being applicable to waterworks serving less than 10,000 individuals when in the determination of the division, public health will be better served.

e. With prior approval of the division, waterworks which utilize multiple wells from a common aquifer may consider these multiple sources as one treatment plant for determining the minimum number of samples to be collected for TTHM analysis.

f. All samples for TTHM or MTP taken within an established frequency shall be collected within a 24-hour period.

g. The results of all analyses per quarter shall be arithmetically averaged and reported to the division within 30 days of the owner's receipt of the results (when samples are not analyzed by the state). All samples collected shall be used in the computation of the average unless the results are invalidated for technical reasons.

h. Analysis shall be conducted in accordance with § 2.14.

i. Before any modification to a waterworks is undertaken for the purposes of complying with this section, approval must be obtained in accordance with 12 VAC 5-590-200. In addition, the following information, as a minimum, may be required from the owner:

(1) An evaluation of the waterworks for sanitary defects and an evaluation of the source water for biological quality.

(2) Evaluation of existing treatment practices and indication of how proposed improvements will minimize disinfectant demand and optimize finished water quality;

(3) Provision of results of a baseline water quality survey. Parameters monitored should include coliform, fecal coliform, fecal streptococci, heterotrophic plate counts at 20°C and 35°C, phosphate, ammonia-nitrogen and TOC. Virus studies may be necessary as determined by the division.

(4) Performance of additional monitoring to assure continued maintenance of optimal biological quality in the finished water;

(5) Consideration of a plan to maintain an active disinfectant residual throughout the distribution system at all times during and after proposed modifications.

3. 2. Volatile Organic chemicals (VOCs) and Other Organic Contaminants. Owners of all community and nontransient noncommunity waterworks must *shall* sample for VOCs every three months at each entry point to their distribution system using the implementation schedule in Table 2.7 organic chemical in accordance with their water source. Where two or more sources are combined before distribution, the waterworks must *owner shall* sample at the entry point for the combined sources during periods of normal operating conditions.

a. Waterworks not detecting VOCs. Owners of waterworks which use groundwater shall take a minimum of one sample at each entry point to the distribution system which is representative of each source, after treatment (hereafter called a sampling point).

(1) Groundwater systems. The division may reduce the sampling frequency for waterworks with groundwater sources as follows:

(a) When VOCs are not detected in the first sample (or in any subsequent samples) and the waterworks is not vulnerable as defined in 12 VAC 5-590-370 B 3 c, the sampling frequency may be reduced to one sample every five years.

(b) When VOCs are not detected in the first sample (or in any subsequent samples) and the waterworks is vulnerable as defined in 12 VAC 5-590-370 B 3 c, the sampling may be reduced to one sample every 3 years for systems with more than 500 connections. The sampling frequency may be reduced to one sample every 5 years for waterworks with 500 or fewer connections.

(2) Surface water systems. The division may reduce the sampling frequency for waterworks with surface water source as follows:

(a) When VOCs are not detected in the first year of quarterly samples (or in any other subsequent samples) and the waterworks is not vulnerable as defined in 12 VAC 5-590-370 B 3 c, monitoring is only required at division discretion.

(b) When VOCs are not detected in the first year of quarterly samples (or in any other subsequent samples) and the waterworks is vulnerable as defined in 12 VAC 5-590-370 B 3 c, the sampling frequency may be reduced to one sample every three years for waterworks with more than 500 connections. The sampling frequency may be reduced to one sample every five years for waterworks with 500 or fewer connections.

b. Waterworks detecting VOCs. The division may reduce the monitoring frequency for waterworks

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~~detecting VOCs to one sample per year if the levels of VOCs detected are consistently less than the PMCLs in quarterly samples for three consecutive years. Owners of waterworks which use a surface water source in whole or in part shall take a minimum of one sample at points in the distribution system that are representative of each source or at each entry point to the distribution system, after treatment (hereafter called a sampling point).~~

~~c. Vulnerability. The division shall determine the vulnerability of each community and nontransient noncommunity waterworks based on the previous monitoring results and proximity to commercial or industrial use, storage, or disposal of volatile synthetic organic chemicals. A waterworks is deemed vulnerable for a period of three years after any positive measurement of one or more contaminants listed as a VOC in Table 2.3 or listed in Table 2.6. The owner of each community and nontransient noncommunity waterworks shall take four consecutive quarterly samples for each contaminant listed in Table 2.3 - VOC [ 2 through 21 ] and SOC during each compliance period, beginning in the compliance period starting January 1, 1993.~~

~~d. Repeat samples. The division may require repeat samples for positive or negative results. Results from a repeat sample may be averaged with the initial sample results. The division has the discretion to delete results of obvious sampling errors from this calculation. Reduced monitoring.~~

~~e. Vinyl Chloride. Analysis for vinyl chloride is required only for groundwater sources where one or more of the following two carbon organic compounds have been detected:~~

~~Trichloroethylene~~

~~Tetrachloroethylene~~

~~1,2-Dichloroethane~~

~~cis-1,2-Dichloroethylene~~

~~trans-1,2-Dichloroethylene~~

~~1,1-Dichloroethylene~~

~~1,1,1-Trichloroethane~~

~~If the first analysis does not detect vinyl chloride, the division may reduce sampling for vinyl chloride to once every three years for that same entry point location. Surface water systems may be required to analyze for vinyl chloride at the discretion of the division.~~

~~(1) VOC.~~

~~(a) If the initial monitoring for contaminants listed in Table 2.3 - VOC 1 through 8 and the monitoring for the contaminants listed in Table 2.3 - VOC 9 through 21 as allowed in subdivision 2 (1)(c) of this subsection has been completed by December 31, 1992, and the waterworks did not detect any contaminant listed in Table 2.3 - VOC 1 through 21, then the owner of each groundwater~~

~~waterworks and waterworks which use a surface water source in whole or in part shall take one sample annually beginning January 1, 1993.~~

~~(b) After a minimum of three years of annual sampling, the commissioner may allow the owner of a groundwater waterworks with no previous detection of any contaminant listed in Table 2.3 - VOC [ 2 through 21 ] to take one sample during each compliance period.~~

~~(c) The commissioner may allow the use of monitoring data collected after January 1, 1988, for purposes of initial monitoring compliance. If the data are generally consistent with the other requirements in this section, the commissioner may use these data (i.e., a single sample rather than four quarterly samples) to satisfy the initial monitoring requirement of subdivision B 2 c of this section. Waterworks which use grandfathered samples and did not detect any contaminants listed in Table 2.3 - VOC, 2 through 21, shall begin monitoring annually in accordance with subdivision 2 (1) (a) of this subsection beginning January 1, 1993.~~

~~(2) SOC.~~

~~(a) Waterworks serving more than 3,300 persons which do not detect a contaminant listed in Table 2.3 - SOC 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) Waterworks serving less than or equal to 3,300 persons which do not detect a contaminant listed in Table 2.3 - SOC in the initial compliance period may reduce the sampling frequency to a minimum of one sample during each repeat compliance period.~~

~~f. The division may increase required monitoring where necessary to detect contaminant variations within the waterworks. e. Waiver application.~~

~~(3) For VOCs. The owner of any community and nontransient noncommunity groundwater waterworks which does not detect a contaminant listed in Table 2.3 - VOC may apply to the commissioner for a waiver from the requirements of subdivisions B 2 d (1) (a) and (b) of this section after completing the initial monitoring. A waiver shall be effective for no more than six years (two compliance periods). The commissioner may also issue waivers to small systems for the initial round of monitoring for 1,2,4-trichlorobenzene.~~

~~(4) For SOCs. The owner of any community and nontransient noncommunity waterworks may apply to the commissioner for a waiver from the requirement of subdivisions B 2 c and d (2) of this section. The waterworks owner shall reapply for a waiver for each compliance period.~~

f. A commissioner may grant a waiver after evaluating the following factors: Knowledge of previous use (including transport, storage, or disposal) of the contaminant within the watershed or zone of influence of the source. If a determination by the commissioner reveals no previous use of the contaminant within the watershed or zone of influence, a waiver may be granted. If previous use of the contaminant is unknown or it has been used previously, then the following factors shall be used to determine whether a waiver is granted.

(1) Previous analytical results.

(2) The proximity of the waterworks to a potential point or nonpoint source of contamination. Point sources include spills and leaks of chemicals at or near a waterworks or at manufacturing, distribution, or storage facilities, or from hazardous and municipal waste landfills and other waste handling or treatment facilities. Nonpoint sources for SOCs include the use of pesticides to control insect 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 2.3 VOC and SOC.

(4) How well the water source is protected against contamination, such as whether it is a waterworks which uses a surface water source in whole or in part or whether it is a groundwater source waterworks. Groundwater source waterworks shall consider factors such as depth of the well, the type of soil, [ and ] wellhead protection [ , and well structure integrity ]. Waterworks which use surface water in whole or in part shall consider watershed protection.

(5) Special factors.

(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 supply source.

(c) For SOCs. Use of PCBs in equipment used in the production, storage, or distribution of water (i.e., PCBs used in pumps, transformers, etc.).

g. Condition for waivers.

(1) As a condition of the VOC waiver the owner of a groundwater waterworks shall take one sample at each sampling point during the time the waiver is effective (i.e., one sample during two compliance periods or six years) and update its vulnerability assessment considering the factors listed in subdivision B 2 f of this section. Based on this vulnerability assessment the commissioner shall reconfirm that the waterworks owner is nonvulnerable. If the commissioner does not make this reconfirmation within three years of the initial determination, then the waiver is invalidated and the

waterworks is required to sample annually as specified in subdivision B 2 d (1)(a) of this section.

(2) The owner of any community and nontransient noncommunity waterworks which use surface water in whole or in part which does not detect a contaminant listed in Table 2.3 - VOC may apply to the commissioner for a waiver from the requirements of subdivision B 2 d (1)(a) of this section after completing the initial monitoring. Waterworks meeting this criteria shall be determined by the commissioner to be nonvulnerable based on a vulnerability assessment during each compliance period. Each waterworks receiving a waiver shall sample at the frequency specified by the commissioner (if any).

(3) There are no conditions to SOC waivers.

h. If a contaminant listed in Table 2.3 - VOC 2 through 21 or SOC 1 through 33 is detected then [ (NOTE: Detection occurs when a contaminant level exceeds the current detection limit as defined by EPA.) ]:

(1) Each waterworks owner shall monitor quarterly at each sampling point which resulted in a detection.

(2) The commissioner may decrease the quarterly monitoring requirement specified in subdivision B 2 h (1) of this section provided it has determined that the waterworks is reliably and consistently below the PMCL. In no case shall the commissioner make this determination unless a groundwater waterworks takes a minimum of two quarterly samples and a waterworks which use surface water in whole or in part takes a minimum of four quarterly samples.

(3) If the commissioner determines that the waterworks is reliably and consistently below the PMCL, the commissioner may allow the waterworks to monitor annually. Waterworks which monitor annually shall monitor during the quarter(s) which previously yielded the highest analytical result.

(4) Waterworks which have three consecutive annual samples with no detection of a contaminant may apply to the commissioner for a waiver [ to for ] VOC as specified in subdivision B 2 e (1) or to SOC as specified in subdivision B 2 e (2) of this section.

(5) Subsequent monitoring due to contaminant detection.

(a) Groundwater waterworks which have 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 taken at each sampling point at which one or more of the two-carbon organic compounds was detected. If the results of the first analysis do not detect vinyl chloride, the commissioner may reduce the quarterly monitoring frequency of vinyl chloride monitoring

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to one sample during each compliance period. Waterworks which use surface water in whole or in part are required to monitor for vinyl chloride as specified by the commissioner.

(b) If monitoring results in detection of one or more of certain related contaminants (heptachlor and heptachlor epoxide), then subsequent monitoring shall analyze for all related contaminants.

i. Waterworks which violate the requirements of Table 2.3 for VOCs or SOCs, as determined by 12 VAC 5-590-410 C, shall monitor quarterly. After a minimum of four consecutive quarterly samples which show the waterworks is in compliance as specified in 12 VAC 5-590-410 C and the commissioner determines that the waterworks is reliably and consistently below the PMCL, the waterworks may monitor at the frequency and time specified in subdivision B 2 h (3) of this section.

3. Trihalomethanes. Samples for TTHM analyses shall be collected quarterly from all community and nontransient noncommunity waterworks which disinfect and serve 10,000 or more individuals. At least four samples for each treatment plant used by the waterworks must be collected using the following criteria: at least 25% of the samples shall be taken at locations within the distribution system reflecting the maximum residence time of the water in the system. The remaining 75% shall be taken at representative locations in the distribution system, taking into account the number of persons served, different sources of water and different treatment methods employed. Sample locations shall be approved by the commissioner.

a. Community and nontransient noncommunity waterworks utilizing surface water in whole or in part may, upon written request, have the monitoring frequency reduced by the division to a minimum of one sample per quarter taken at a point of maximum residence time of the water in the distribution system. The division must make a written determination that data from at least one year of monitoring and local conditions indicate that TTHM concentrations will be consistently below the PMCL.

If at any time in the reduced monitoring program the results from any analysis exceed the PMCL for TTHMs and such results are confirmed by at least one check sample taken promptly after such results are received, or if the waterworks makes any significant change to its source of water or treatment program, the waterworks shall immediately begin monitoring in accordance with subdivision B 3 of this section. Routine monitoring must continue for at least one year before a reduced monitoring frequency can be implemented again.

b. Community and nontransient noncommunity waterworks utilizing groundwaters only may, upon written request, have the monitoring frequency reduced to a minimum of one sample per year for

TTHM. This sample shall be collected at a point in the distribution system reflecting the maximum residence time of the water. The division must make a written determination that the data indicates the system has a TTHM concentration of less than the PMCL and local conditions indicate that TTHM concentrations will be consistently below the PMCL.

If at any time in the reduced monitoring program the results from any TTHM exceed or equal the PMCL and such results are confirmed by at least one check sample taken promptly after such results are received, the waterworks shall immediately begin monitoring in accordance with subdivision B 3 of this section. Routine monitoring must continue for at least one year before a reduced monitoring frequency can be implemented again.

If any significant change occurs in the raw water or if the waterworks treatment process is altered, an additional sample for TTHM shall be analyzed immediately to determine whether the waterworks must comply with the monitoring requirements of subdivision B 3 of this section. The sample shall be collected at a point in the distribution system reflecting the maximum residence time of the water.

c. Nothing shall prevent the division from requiring additional samples for TTHM or MTP analysis when conditions warrant.

d. Nothing shall prevent the TTHM regulations from being applicable to waterworks serving less than 10,000 individuals when in the determination of the division, public health will be better served.

e. With prior approval of the division, waterworks which utilize multiple wells from a common aquifer may consider these multiple sources as one treatment plant for determining the minimum number of samples to be collected for TTHM analysis.

f. All samples for TTHM or MTP taken within an established frequency shall be collected within a 24-hour period.

g. The results of all analyses per quarter shall be arithmetically averaged and reported to the division within 30 days of the owner's receipt of the results (when samples are not analyzed by the state). All samples collected shall be used in the computation of the average unless the results are invalidated for technical reasons.

h. Analysis shall be conducted in accordance with 12 VAC 5-590-440.

i. Before any modification to a waterworks is undertaken for the purposes of complying with this section, approval must be obtained in accordance with 12 VAC 5-590-200. In addition, the following information, as a minimum, may be required from the owner:

(1) An evaluation of the waterworks for sanitary defects and an evaluation of the source water for biological quality;

(2) Evaluation of existing treatment practices and indication of how proposed improvements will minimize disinfectant demand and optimize finished water quality;

(3) Provision of results of a baseline water quality survey. Parameters monitored should include coliform, fecal coliform, fecal streptococci, heterotrophic plate counts at 20°C and 35°C, phosphate, ammonia nitrogen and TOC. Virus studies may be necessary as determined by the division;

(4) Performance of additional monitoring to assure continued maintenance of optimal biological quality in the finished water;

(5) Consideration of a plan to maintain an active disinfectant residual throughout the distribution system at all times during and after proposed modifications.

4. Unregulated contaminants (Ucs). All community and nontransient noncommunity waterworks shall sample for the contaminants listed in Table 2.6 using the implementation schedule in and Table 2.7 as follows:

a. ~~Surface water systems shall sample in the distribution system representative of each water source or at entry points to the distribution system. The minimum number of samples is one year of consecutive quarterly samples per water source. Table 2.6 - Group A~~

(1) Owners of waterworks which use a surface water source in whole or in part shall sample at the entry points to the distribution system which is representative of each source, after treatment (hereafter called a sampling point). The minimum number of samples is one year of consecutive quarterly samples per sampling point beginning in accordance with Table 2.8.

(2) Owners of waterworks which use groundwater shall sample at points of entry to the distribution system which is representative of each source (hereafter called a sampling point). The minimum number of samples is one sample per sampling point beginning in accordance with Table 2.8.

(3) The commissioner may require a confirmation sample for positive or negative results.

(4) Waterworks serving less than 150 connections may inform the commissioner, in writing, that their waterworks is available for sampling instead of performing the required sampling.

(5) All waterworks required to sample under this section shall repeat the sampling at least every five years.

b. ~~Groundwater systems shall sample at points of entry to the distribution system representative of each source. The minimum number of samples is one sample per entry point to the distribution system. Table 2.6 - Group B and Table 2.7~~

(1) The owner of each community and nontransient noncommunity waterworks owner shall take four consecutive quarterly samples at the entry points to the distribution system which is representative of each source (hereafter called a sampling point) for each contaminant listed in Table 2.6 Group B and report the results to the commissioner. Monitoring shall be completed by December 31, 1995.

(2) The owner of each community and nontransient noncommunity waterworks shall take one sample at each sampling point for each contaminant listed in Table 2.7 and report the results to the commissioner. Monitoring shall be completed by December 31, 1995.

(3) The owner of each community and nontransient noncommunity waterworks may apply to the commissioner for a waiver from the monitoring requirements of [ subdivision B 4 b (1) and (2) of this section for the contaminants listed in ] Table 2.6 Group B and Table 2.7.

(4) The commissioner may grant a waiver for the requirement of subdivision B 4 b (1) of this section based on the criteria specified in subdivision B 2 [ if ] of this section. The commissioner may grant a waiver from the requirement of subdivision B 4 b (2) of this section if previous analytical results indicate contamination would not occur, provided this data was collected after January 1, 1990.

(5) If the waterworks utilizes more than one source and the sources are combined before distribution, the waterworks 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).

(6) The commissioner may require a confirmation sample for positive or negative results.

(7) Instead of performing the monitoring required by this section, the owner of a community waterworks or nontransient noncommunity waterworks serving fewer than 150 service connections may send a letter to the commissioner stating that the waterworks is available for sampling. This letter shall be sent to the commissioner by January 1, 1994. The waterworks shall not send such samples to the commissioner unless requested to do so by the commissioner.

[ (8) All waterworks required to sample under this section shall repeat the sampling at least every five years. ]

e. ~~The division may require repeat samples for positive or negative results.~~

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~~d. Waterworks must monitor for EDB and DBCP only if the division determines they are vulnerable to contamination by one or both of these substances. A vulnerable waterworks under this Subsection is one which may be potentially contaminated by EDB or DBCP, including surface water systems where either of these compounds are applied, manufactured, stored, disposed of or transported upstream, and for groundwater systems in areas where the compounds are applied, manufactured, stored, disposed of, or transported in the groundwater recharge basin, or for groundwater systems that are in proximity to underground storage tanks that contain leaded gasoline.~~

~~e. Waterworks serving less than 150 connections may inform the division in writing that their waterworks is available for sampling instead of performing the required sampling.~~

~~f. All waterworks required to sample under this section shall repeat the sampling at least every five years.~~

~~5. Fluoride. Waterworks sampling for fluoride shall comply with the following requirements:~~

~~a. The waterworks shall be sampled at the entry point to the distribution system of each water source.~~

~~b. If water from two or more sources is combined before distribution, the waterworks shall be sampled at the entry point to the distribution system during the period of maximum fluoride levels occurring under normal operating conditions.~~

~~c. The division may alter the frequencies for fluoride sampling as set out in 12 VAC 5-590-370 B 1 of this section to increase or decrease such frequency considering the following factors:~~

- ~~(1) Reported concentrations from previous samples.~~
- ~~(2) The degree of variation in reported concentrations.~~
- ~~(3) Other factors which may affect fluoride concentrations such as changes in pumping rates of groundwater sources or significant changes in system configuration, operating conditions, sources of water, and changes in stream flow.~~

~~d. The division may decrease the required sampling frequencies set out in 12 VAC 5-590-370 B 1 of this section upon written application from the waterworks owner if the division determines the system is unlikely to exceed the PMCL considering the factors in 12 VAC 5-590-370 B 5 c. Such determination shall be in writing and shall set forth the basis for the determination. This determination shall be reviewed at least once every 10 years. In no case shall monitoring be reduced to less than one sample every 10 years.~~

6. (Reserved for lead)

7. Waterworks required to filter. The owner of a waterworks that uses a surface water source or a groundwater source under the direct influence of surface water and provides filtration treatment must monitor in

accordance with this section beginning June 29, 1993, or when filtration is installed, whichever is later.

a. Turbidity measurements as required by 12 VAC 5-590-410 C shall be performed on representative samples of the filtered water every four hours (or more frequently) that the waterworks serves water to the public. A waterworks owner may substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a protocol approved by the division. For any waterworks using slow sand filtration or filtration treatment other than conventional treatment, direct filtration, or diatomaceous earth filtration, the division may reduce the sampling frequency to once per day if it determines that less frequent monitoring is sufficient to indicate effective filtration performance. For waterworks serving 500 or fewer persons, the division may reduce the turbidity sampling frequency to once per day, regardless of the type of filtration treatment used, if the division determines that less frequent monitoring is sufficient to indicate effective filtration performance.

b. The residual disinfectant concentration of the water entering the distribution system shall be monitored continuously, and the lowest value shall be recorded each day, except that if there is a failure in the continuous monitoring equipment, grab sampling every four hours may be conducted in lieu of continuous monitoring, but for no more than five working days following the failure of the equipment, and owners of waterworks serving 3,300 or fewer persons may take grab samples in lieu of continuous monitoring on an ongoing basis at the frequencies each day prescribed below:

Waterworks Size by Population	Samples/Day*
500 or less	1
501 to 1,000	2
1,000 to 2,500	3
2,501 to 3,300	4

\*The day's samples cannot be taken at the same time. The sampling intervals are subject to division review and approval.

If at any time the residual disinfectant concentration falls below 0.2 mg/L in a waterworks using grab sampling in lieu of continuous monitoring, the waterworks owner shall take a grab sample every four hours until the residual disinfectant concentration is equal to or greater than 0.2 mg/L.

(1) The residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in subsection A of this section, except that the division may allow a waterworks owner which uses both a surface water source or a groundwater source under direct influence of surface water, and a groundwater

source to take disinfectant residual samples at points other than the total coliform sampling points if the division determines that such points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in 12 VAC 5-590-420 B may be measured in lieu of residual disinfectant concentration.

(2) If the division determines, based on site-specific considerations, that a waterworks has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions and that the waterworks is providing adequate disinfection in the distribution system, the requirements of 12 VAC 5-590-370 B 7 (1) do not apply to that waterworks.

c. The following information on the samples taken in the distribution system in conjunction with total coliform monitoring pursuant to 12 VAC 5-590-420 B shall be reported monthly to the division by the waterworks 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 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 >500/mL;

(5) Number of instances where the residual disinfectant concentration is not measured and HPC is >500/mL.

(6) For the current and previous month the waterworks serves water to the public, the value of "V" in percent in the following formula:

$$V = \frac{c + d + e}{a + b} \times 100$$

where

a = the value in subdivision B 7 c (1) of this section,

b = the value in subdivision B 7 c (2) of this section,

c = the value in subdivision B 7 c (3) of this section,

d = the value in subdivision B 7 c (4) of this section,

e = the value in subdivision B 7 c (5) of this section,

(7) If the division determines, based on site-specific considerations, that a waterworks owner has no means for having a sample transported and analyzed for HPC by a certified laboratory within the

requisite time and temperature conditions and that the waterworks is providing adequate disinfection in the distribution system, the requirements of subdivision B 7 b (1) of this section do not apply.

d. A waterworks owner need not report the data listed in 12 VAC 5-590-530 C 2 a if all data listed in 12 VAC 5-590-530 C 2 a through c remain on file at the waterworks and the division determines that the waterworks owner has submitted all the information required by 12 VAC 5-590-530 C 2 a through c for at least 12 months.

8. Operational. Waterworks owners may be required by the division to collect additional samples to provide quality control for any treatment processes that are employed.

C. Physical. All samples for turbidity analysis shall be taken at a representative entry point or points to the water distribution system unless otherwise specified. Turbidity samples shall be analyzed, at least once per day at all waterworks, that use surface water sources or groundwater sources under the direct influence of surface water.

D. Radiological. The frequency of radiological sampling shall be accordance with 12 VAC 5-590-400.

#### 12 VAC 5-590-390. Chemical and physical quality.

A. Necessary action for noncompliance.

1. Inorganic chemicals. See 12 VAC 5-590-530 B and 12 VAC 5-590-540.

2. Organic chemicals. See 12 VAC 5-590-530 B and 12 VAC 5-590-540.

3. Turbidity. See 12 VAC 5-590-530 B and 12 VAC 5-590-540.

4. If the average concentration level of a substance is greater than the Secondary Maximum Contaminant Level, the division will determine whether treatment to remove the substance can be accomplished or more suitable supplies 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 and their rationale in Appendix B.

#### 12 VAC 5-590-400. Radiological quality.

The effects of human radiation exposure are viewed as harmful, and any unnecessary exposure to ionizing radiation should be avoided. Approval of water supplies containing radioactive materials shall be based on judgment that the

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radioactivity intake from such water supplies is not likely to result in an intake greater than the radiation protection guidance recommended by the Federal Radiation Council (FRC). The specific limits included in these regulations are listed in Table 2.5 with ~~additional information and rationale provided in Appendix B.~~

A. Monitoring requirements for gross alpha particle activity, radium-226 and radium-228. Primary Maximum Contaminant Levels are contained in Table 2.5.

1. Compliance shall be based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals.

a. A gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analysis, provided that the measured gross alpha particle activity does not exceed 5 pCi/L at a confidence level of 95% ( $1.65 \sigma$  where  $\sigma$  is the standard deviation of the net counting rate of the sample). In localities where radium-228 is suspected or has been shown by previous monitoring to be present, radium-226 and/or radium-228 analyses shall be required when the gross alpha particle activity exceeds 2 pCi/L.

b. When the gross alpha particle activity exceeds 5 pCi/L the same or an equivalent sample shall be analyzed for radium-226. If the concentration of radium-226 exceeds 3 pCi/L, the same or an equivalent sample shall be analyzed for radium-228.

2. Waterworks owners shall monitor at least once every four years following the procedure required in subdivision A 1 of this section. When an annual record taken in conformance with subdivision A 1 of this section has established that the average annual concentration is less than half the Primary Maximum Contaminant Level established by Table 2.5, analysis of a single sample may be substituted for the quarterly sampling procedure required by subdivision A 1 of this section.

a. More frequent monitoring shall be established by the division in the vicinity of operations which may contribute alpha particle radioactivity to either surface or groundwater sources of drinking water.

b. A waterworks owner shall monitor in conformance with subdivision A 1 of this section within one year of the introduction of a new water source for a community waterworks.

More frequent monitoring may be required by the division in the event of possible contamination or when changes in the distribution system or treatment processing occur which may increase the concentration of radioactivity in finished water.

c. A waterworks using two or more sources having different concentrations of radioactivity shall monitor source water, in addition to distribution samples, when required by the division.

d. Monitoring to determine compliance with Table 2.5 after the initial sampling period need not include

radium-228 except when required by the division, provided that the average annual concentration of radium-228 has been assayed at least once using the quarterly sampling procedure required by subdivision A 1 of this section.

e. The waterworks owner shall conduct annual monitoring of any community water system in which the radium-226 concentration exceeds 3 pCi/L.

B. Monitoring requirement for man-made radioactivity in community waterworks. Primary Maximum Contaminant Levels are contained in Table 2.5.

1. Community waterworks using surface water sources and serving more than 100,000 persons and such other community waterworks as are designated by the division shall be monitored for compliance with Table 2.5 by analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. Compliance with Table 2.5 may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than 50 pCi/L and if the average annual concentrations of tritium and strontium-90 are less than those listed in Schedule I, provided that if both radionuclides are present, the sum of their annual dose equivalents to bone marrow shall not exceed 4 millirem/year.

a. If the gross beta activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with Table 2.5.

b. Additional monitoring may be required by the division, to determine the concentration of man-made radioactivity in principal watersheds.

c. The division may require waterworks owners utilizing only groundwaters to monitor for man-made radioactivity.

2. After the initial analysis required by subdivision A 2 of this section, waterworks owners shall monitor at least every four years following the procedure given in subdivision A 2 of this section.

3. If it is suspected or if it has been shown that a community waterworks is utilizing waters contaminated by effluents from nuclear facilities, the waterworks owner shall initiate quarterly monitoring for gross beta particle and iodine-131 radioactivity and annual monitoring for strontium-90 and tritium.

a. Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples. Where this is not possible, gross beta particle activity in a sample exceeds 15 pCi/L, the same or an equivalent sample shall be analyzed for strontium-89 and cesium-134. If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents and total doses shall be calculated to determine compliance with Table 2.5.

b. For iodine-131, a composite of consecutive daily samples shall be analyzed once each quarter.

More frequent monitoring shall be established by the division when iodine-131 is identified in the finished water.

c. 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.

d. The division may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of man-made radioactivity by the waterworks owner where the division determines such data is applicable to a particular community water system.

## 12 VAC 5-590-410. Determination of compliance.

For the purposes of determining compliance with a ~~Primary Maximum Contaminant Level~~ PMCL or action level the following criteria shall be used:

A. Bacteriological results. Compliance with the ~~Primary Maximum Contaminant Level~~ PMCL for coliform bacteria shall be determined as specified in 12 VAC 5-590-380 C. Repeat samples shall be used as a basis for determining compliance with these regulations.

B. ~~Organic and Inorganic chemicals. When a sample exceeds an organic or inorganic chemical Primary Maximum Contaminant Level, three additional samples shall be collected and analyzed for that constituent within 30 calendar days. Compliance is then determined on the average of the four samples, rounded off to the same number of significant figures as the Primary Maximum Contaminant Level for the substance in question. Special compliance determinations for specific chemical contaminants are specified in the following Subsections of 12 VAC 5-590-410-B.~~

1. ~~Fluoride. Compliance with the PMCL shall be determined based on each sampling point. If any sampling point is determined to be out of compliance, the entire system is deemed to be out of compliance. Antimony, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, and thallium. Where the results of sampling for antimony, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, or thallium exceed the PMCL, the waterworks shall take a confirmation sample, at the same sampling point, within two weeks of notification of the analytical results of the first sample.~~

a. *The results of the initial and confirmation samples shall be averaged to determine compliance with subdivision 1 c of this subsection. The commissioner has the discretion to delete results of obvious sampling errors.*

b. *The commissioner may require more frequent monitoring.*

c. *Compliance with antimony, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide),*

*chromium, fluoride, mercury, nickel, selenium, and thallium in Table 2.2 shall be determined based on the analytical result(s) obtained at each sampling point.*

(1) *For waterworks which are conducting monitoring more frequently than annually, compliance with the PMCL for antimony, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, and thallium is determined by a running annual average 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 one sample would cause the annual average to be exceeded, then the waterworks is out of compliance immediately. Any sample below the detection limit shall be calculated at zero for the purpose of determining the annual average. [ (NOTE: Refer to detection definition at 12 VAC 5-590-370 B 2 h.) ]*

(2) *For waterworks which are monitoring annually, or less frequently, the waterworks is out of compliance with the PMCL for antimony, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, and thallium if the average of the original sample and a confirmation sample of a contaminant at any sampling point is greater than the PMCL. [ However, if the confirmation sample is not collected, the waterworks is in violation of the PMCL for antimony, asbestos, barium, beryllium, cadmium, cyanide (as free cyanide), chromium, fluoride, mercury, nickel, selenium, or thallium. ]*

2. ~~Nitrate and nitrite. When a sample exceeds the Primary Maximum Contaminant Level for nitrate, a second analysis Compliance with the PMCL is determined based on one sample from each sampling point if the levels of these contaminants are below the PMCLs. Where nitrate or nitrite sample results exceed the PMCL, the waterworks owner shall be initiated take a confirmation sample from the same sampling point that exceeded the PMCL within 24 hours of the waterworks' receipt of the analytical results of the first sample. The results of the initial and confirmation sample shall be averaged to determine compliance with this subdivision. Waterworks owners unable to comply with the 24-hour sampling requirement must immediately notify the consumers in the area served by the waterworks in accordance with 12 VAC 5-590-540. Waterworks exercising this option must take and analyze a confirmation sample within two weeks of notification of the analytical results of the first sample. [ The commissioner may require more frequent monitoring. ] The commissioner has the discretion to delete results of obvious sampling errors.~~

3. *Compliance with the PMCL for arsenic is determined by the average of four analyses made pursuant to 12 VAC 5-590-370 B 1 d (6). When the average is rounded to the same number of significant figures as the PMCL and exceeds the PMCL the owner shall notify the commissioner and give notice to the public pursuant to 12 VAC 5-590-540. Monitoring after public notification*

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shall be at a frequency designated by the commissioner and shall continue until the PMCL has not been exceeded in two successive samples or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

## C. Organic chemicals.

1. VOCs and SOCs. A confirmation sample shall be required for positive results for contaminants listed in Table 2.3. The commissioner has the discretion to delete results of obvious sampling errors from this calculation.

a. The results of the initial and confirmation sample shall be averaged to determine the waterworks' compliance in accordance with subdivision 1 b of this subsection.

b. Compliance with Table 2.3 shall be determined based on the analytical results obtained at each sampling point.

(1) For waterworks which are conducting monitoring more frequently than annually, compliance is determined by a running annual average of all samples taken 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. Any samples below the detection limit shall be calculated as zero for purposes of determining the annual average.

(2) If monitoring is conducted annually, or less frequently, the waterworks is out of compliance if the level of a contaminant at any sampling point is greater than the PMCL. The determination of compliance will be based on the average of the initial and confirmation sample.

3. 2. Trihalomethanes. Compliance shall be determined based on a running annual average of quarterly samples taken in accordance with 12 VAC 5-590-370 B 2 3.

4. VOC's. Compliance shall be based on a running annual average of quarterly samples for each sampling point taken in accordance with 12 VAC 5-590-370 B 2. If one entry point sampling location is in violation, the entire waterworks is deemed to be in violation. If a waterworks has a distribution system separable from other parts of the distribution system with no physical interconnections, only that part of the waterworks that exceeds any PMCL for a VOC in Table 2.3 will be deemed in violation. The division may reduce the public notification requirement to that portion of the waterworks which is out of compliance. If any one sample result would cause the annual average to be exceeded, then the waterworks shall be deemed in violation immediately. For waterworks that have had their sampling frequency reduced, in accordance with §2.4 B 3, compliance shall be based on that one sample.

C. Turbidity. The requirements in 12 VAC 5-590-410 C apply to filtered waterworks until June 29, 1993. The requirements in this section apply to unfiltered waterworks with surface water sources or groundwater sources under the direct influence of surface water that are required to install filtration equipment until June 29, 1993, or until filtration is installed, whichever is later. When a sample exceeds the PMCL for turbidity a confirmation sample shall be collected for analysis as soon as possible. In cases where a turbidimeter is required at the waterworks, the preferable resampling time is within one hour of the initial sampling. The repeat sample shall be the sample used for the purpose of calculating the monthly average. Compliance for public notification purposes shall be based on the monthly averages of the daily samples. However, public notification is also required if the average of samples taken on two consecutive days exceeds 5 NTU.

D. Radiological results (gross alpha, total radium and man-made radioactivity). Compliance with the radiological Primary Maximum Contaminant Levels shall be based on the annual average results. Primary Maximum Contaminant Levels are indicated in Table 2.5. Sampling for radiological analysis shall be in compliance with 12 VAC 5-590-400 A 1 and A 2. Furthermore, compliance shall be determined by rounding off results to the same number of significant figures as the Primary Maximum Contaminant Level for the substance in question.

E. Turbidity. The requirements in this subsection apply to filtered waterworks until June 29, 1993. The requirements in this section apply to unfiltered waterworks with surface water sources or groundwater sources under the direct influence of surface water that are required to install filtration equipment until June 29, 1993, or until filtration is installed, whichever is later. When a sample exceeds the PMCL for turbidity a confirmation sample shall be collected for analysis as soon as possible. In cases where a turbidimeter is required at the waterworks, the preferable resampling time is within one hour of the initial sampling. The repeat sample shall be the sample used for the purpose of calculating the monthly average. Compliance for public notification purposes shall be based on the monthly averages of the daily samples. However, public notification is also required if the average of samples taken on two consecutive days exceeds 5 NTU.

E. F. All analyses for PMCL and action level compliance determinations shall be consistent with current Environmental Protection Agency Regulations found at 40 CFR Part 141 [ (1991) ].

## 12 VAC 5-590-420. Treatment technique requirements.

This section establishes treatment technique requirements in lieu of maximum contaminant levels for specified contaminants. Failure to meet any requirement of this section after the applicable date specified is a treatment technique violation.

A. Beginning June 29, 1993, the filtration and disinfection provisions of this section are required treatment techniques for any waterworks supplied by a surface water source and waterworks supplied by a groundwater source under the direct influence of surface water. Prior to that date, waterworks are governed by the disinfection requirements of

12 VAC 5-590-500. In addition, this section establishes treatment technique requirements in lieu of PMCL's for the following contaminants: *Giardia lamblia*, viruses, heterotrophic bacteria (HPC), *Legionella*, and turbidity. Each waterworks with a surface water source or a groundwater source under the direct influence of surface water shall provide treatment of that source water that complies with these treatment technique requirements. The treatment technique requirements consist of installing and properly operating water treatment processes which reliably achieve:

1. At least 99.9% (3-log) removal and/or inactivation of *Giardia lamblia* cysts between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer; and
2. At least 99.99% (4-log) removal and/or inactivation of viruses between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer.

B. A waterworks using a surface water source or a groundwater source under the direct influence of surface water is considered to be in compliance with the requirements of subsection A of this section if it meets the following disinfection and filtration requirements:

1. Disinfection. Waterworks with a surface water source or a groundwater source under the direct influence of surface water must provide disinfection treatment in accordance with this section by June 29, 1993.

a. The disinfection treatment must be sufficient to ensure that the total treatment processes of that waterworks achieve at least 99.9% (3-log) inactivation and/or removal of *Giardia lamblia* cysts and at least 99.99% (4-log) inactivation and/or removal of viruses.

b. The residual disinfectant concentration in the water entering the distribution system cannot be less than 0.2 mg/L for more than four hours.

c. The residual disinfectant concentration in the distribution system, measured as total chlorine, combined chlorine, or chlorine dioxide cannot be undetectable in more than 5.0% of the samples each month, for any two consecutive months that the waterworks serves water to the public. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500/mL, measured as heterotrophic plate count (HPC) is deemed to have a detectable disinfectant residual for purposes of determining compliance with this requirement. Thus, the value "V" in percent in the following formula cannot exceed 5.0% in one month, for any two consecutive months.

$$V = \frac{c + d + e}{a + b} \times 100$$

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 >500/mL; and

e = number of instances where the residual disinfectant concentration is not measured and HPC is >500/mL.

d. The division may determine, based on site-specific considerations, that a waterworks 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, that the requirements of subdivision B 1 c of this section does not apply.

2. Filtration. (Also see 12 VAC 5-590-880.) All waterworks that use a surface water source or a groundwater source under the direct influence of surface water shall provide filtration treatment by June 29, 1993, by using one of the following methods:

a. Conventional filtration or direct filtration.

(1) The turbidity level of representative samples of a waterworks' filtered water shall be less than or equal to 0.5 NTU in at least 95% of the measurements taken each month, except that if the division determines that the system is capable of achieving at least 99.9% removal (3-log) and/or inactivation of *Giardia lamblia* cysts at some turbidity level higher than 0.5 NTU in at least 95% of the measurements taken each month, the division may substitute this higher turbidity limit for that waterworks. However, in no case may the division approve a turbidity limit that allows more than one NTU in more than 5.0% of the samples taken each month.

(2) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed five NTU.

b. Slow sand filtration.

(1) The turbidity level of representative samples of a waterworks' filtered water must be less than or equal to one NTU in at least 95% of the measurements taken each month, except that if the division determines there is no significant interference with disinfection at a higher turbidity level, the division may substitute this higher turbidity limit for that waterworks.

(2) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed five NTU.

c. Diatomaceous earth filtration.

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(1) 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.

(2) The turbidity level of representative samples of a waterworks' filtered water shall at no time exceed 5 NTU.

d. Other filtration technologies. A waterworks owner may use a filtration technology not listed in subdivisions 2a through c of this subsection if the owner demonstrates to the division (by pilot plant studies or other means) that the alternative filtration technology, in combination with disinfection treatment, achieves 99.9% removal (3-log) and/or inactivation of *Giardia lamblia* cysts and 99.99% removal (4-log) and/or inactivation of viruses. For a waterworks owner that makes this demonstration, the requirements of subdivision B 2 b of this section also apply.

e. Each waterworks using a surface water source or groundwater source under the direct influence of surface water shall be operated by licensed operators of the appropriate classification as per the Virginia Board for Waterworks and Wastewater Works Operators Regulations (18 VAC 155-20-10 et seq.).

f. If the division has determined that a waterworks has a surface water source or a groundwater source under the direct influence of surface water, filtration is required. The waterworks shall provide disinfection during the interim before filtration is installed as follows:

(1) The residual disinfectant concentration in the distribution system cannot be less than 2.0 mg/L for more than four hours.

(2) The waterworks owner shall issue continuing boil water notices through the public notification procedure in 12 VAC 5-590-540 until such time as the required filtration equipment is installed.

(3) As an alternative to subdivisions B f 2 (1) and (2) of this section, the waterworks owner may demonstrate that the source can meet the appropriate C-T values shown in Appendix L and be considered to satisfy the requirements for 99.9% removal of *Giardia* cysts and virus, respectively. In addition, the waterworks owner must comply with the following:

(a) Justify that other alternative sources of supply meeting these regulations are not immediately available.

(b) Analysis of the source is performed quarterly for the contaminants listed in Tables 2.2, 2.3, and 2.4. The primary maximum contaminant levels shall not be exceeded.

(c) Daily turbidity monitoring and maintenance of the turbidity level not to exceed five NTU.

(d) MPN analysis of the raw water based on the minimum sample frequency chart below:

Population Served	Coliform Samples/Week
≤500-	1
501-3,300	2
3,300-10,000	3
10,001-25,000	4
>25,000	5

Note: Must be taken on separate days.

(e) Bacteriological sampling of the distribution system at a frequency of twice that required by Table 2.1.

~~C. Failure to meet any requirement of this section after the applicable date specified is a treatment technique violation. Beginning January 1, 1993, each waterworks owner shall certify annually in writing to the commissioner (using third party or manufacturer's certification) that, when polymers containing acrylamide or epichlorohydrin are used by the waterworks in drinking water systems, the combination (or product) of dose and monomer level does not exceed the following specified levels:~~

~~Acrylamide = 0.05% dosed at 1 ppm (or equivalent) of polymer.~~

~~Epichlorohydrin = 0.01% dosed at 20 ppm (or equivalent) of polymer.~~

~~Certifications may rely on manufacturers or third parties, as approved by the commissioner.~~

## 12 VAC 5-590-440. Analytical methods.

Analytical methods to determine compliance with the requirements of this chapter shall be those specified in the applicable 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; "Methods for Chemical Analysis of Water and Wastes," Environmental Protection Agency, Office of Technology Transfer, Washington, DC 20460, 1974; and "Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water" (Sept 1986), EPA, Environmental Monitoring and Support Laboratory, Cincinnati, OH 45268, or in the case of Primary Maximum Contaminant Levels, those methods [ ~~approved shall be followed~~ ] by the Division of Consolidated Laboratory Services and consistent with current U.S. Environmental Protection Agency regulations found at 40 CFR Part 141 ( [ 1994 1994 ] ). All laboratories seeking certification to perform drinking water analyses must comply with [ ~~all applicable regulations 1 VAC 30-40-10 et seq.~~ ] promulgated by the Department of General Services, Division of Consolidated Laboratory Services.

Table 2.2  
INORGANIC CHEMICALS

Substance	Primary Maximum Contaminant Level (mg/L)
Antimony	0.006
Arsenic (As)	0.05
Asbestos	7 Million Fibers/liter (longer than 10 $\mu$ m)
Barium (Ba)	1.0
Beryllium	4.0
Cadmium (Cd)	0.004
Chromium (Cr)	0.040 0.005
Cyanide (as free Cyanide)	0.05 0.1
Fluoride (F)	0.2
Mercury (Hg)	4.0 #
Nickel	0.002
Nitrate (as N)	0.1
Nitrite (as N)	10 [-0]**
Total Nitrate and Nitrite (as N)	10
Selenium (Se)	0.04 0.05
Silver (Ag)	0.05
Thallium	0.002

Substance	Secondary Maximum Contaminant Level (mg/L)
Chloride (Cl)	250.0
Corrosivity	Noncorrosive, See Appendix B
Fluoride	2.0
Foaming Agents	0.5*
Iron (Fe)	0.3
Manganese (Mn)	0.05
Sodium (Na)	No Limits Designated, See Appendix B
Sulfate (SO <sub>4</sub> )	250.0
Zinc (Zn)	5.0

Substance	Action Level (mg/L)
Lead (Pb)	0.015
Copper (Cu)	1.3

Table 2.3  
ORGANIC CHEMICALS

Substance	Primary Maximum Contaminant Levels (mg/L)
<b>VOG</b>	
<b>Chlorinated Hydrocarbon Insecticides</b>	
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
<b>Chlorophenoxy Herbicides</b>	
2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.1
2,4,5-Trichlorophenoxypropionic Acid (2,4,5-TP or Silvex)	0.01
<b>Volatile Organic Chemicals</b>	
Benzene	0.005
Vinyl chloride	0.002
Carbon tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene (TCE)	0.005
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.20
para-Dichlorobenzene	0.075
<b>Disinfection By-Products</b>	
Total Trihalomethanes	0.10

# Note. For artificially fluoridated waterworks the minimum concentration of fluoride should be 0.8 mg/L and the maximum should be 1.0 mg/L. The optimum control limit is 0.9 mg/L. (See Appendix B.)

\* Note. Concentration reported in terms of Methylene Blue Active Substances.

\*\*Note. See Appendix B for Exception Regarding Noncommunity Waterworks.

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Substance	Primary Maximum Contaminant Levels (mg/L)
VOC	
1. Vinyl chloride	0.002
2. Benzene	0.005
3. Carbon tetrachloride	0.005
4. 1,2-Dichloroethane	0.005
5. Trichloroethylene (TCE)	0.005
6. 1,1-Dichloroethylene	0.007
7. 1,1,1-Trichloroethane	0.2
8. <i>para</i> -Dichlorobenzene	0.075
9. <i>cis</i> -1,2-Dichloroethylene	0.07
10. 1,2-Dichloropropane	0.005
11. Ethylbenzene	0.7
12. Monochlorobenzene	0.1
13. <i>o</i> -Dichlorobenzene	0.6
14. Styrene	0.1
15. Tetrachloroethylene	0.005
16. Toluene	1
17. <i>trans</i> -1,2-Dichloroethylene	0.1
18. Xylene (Total)	10
19. Dichloromethane	0.005
20. 1,2,4-Trichlorobenzene	0.07
21. 1,1,2-Trichloroethane	0.005
THM	
Total Trihalomethanes	0.10
SOC	
1. Alachlor	0.002
2. Atrazine	0.003
3. Carbofuran	0.04
4. Chlordane	0.002
5. Heptachlor	0.0004
6. Heptachlor epoxide	0.0002
7. Polychlorinated biphenyls (PCBs)	0.0005
8. Dibromochloropropane (DBCP)	0.0002
9. Ethylene dibromide (EDB)	0.00005
10. Lindane	0.0002
11. Methoxychlor	0.04
12. Toxaphene	0.003
13. 2, 4-Dichlorophenoxyacetic Acid (2, 4-D)	0.07
14. 2, 4, 5-Trichlorophenoxypropionic Acid (2, 4, 5-TP or Silvex)	0.05
15. Reserved	
16. Reserved	
17. Reserved	
18. Pentachlorophenol	0.001
19. Benzo(a)pyrene	0.0002
20. Dalapon	0.2
21. Di(2-ethylhexyl)adipate	0.4
22. Di(2-ethylhexyl)phthalate	0.006
23. Dinoseb	0.007
24. Diquat	0.02
25. Endothall	0.1
26. Endrin	0.002
27. Glyphosate	0.7
28. Hexachlorobenzene	0.001
29. Hexachlorocyclopentadiene	[0.001 0.05]
30. Oxamyl (Vydate)	0.2
31. Picloram	0.5
32. Simazine	0.004
33. 2,3,7,8-TCDD (Dioxin)	$3 \times 10^{-6}$

Table 2.6

## UNREGULATED CONTAMINANTS ORGANICS TO BE MONITORED

1. Chloroform	2. Bromodichloromethane
3. Chlorodibromomethane	4. Bromoform
5. <i>trans</i> -1,2-Dichloroethylene	6. Chlorobenzene
7. <i>m</i> -Dichlorobenzene	8. Dichloromethane
9. <i>cis</i> -1,2-Dichloroethylene	10. <i>o</i> -Dichlorobenzene
11. Dibromomethane	12. 1,1-Dichloropropene
13. Tetrachloroethylene	14. Toluene
15. <i>p</i> -Xylene	16. <i>o</i> -Xylene
17. <i>m</i> -Xylene	18. 1,1-Dichloroethane
19. 1,2-Dichloroethane	20. 1,1,2,2-Tetrachloroethane
21. Ethylbenzene	22. 1,3-Dichloropropane
23. Styrene	24. Chloromethane
25. Bromoethane	26. 1,2,3-Trichloropropane
27. 1,1,1,2-Tetrachloroethane	28. Chloroethane
29. 1,1,2-Trichloroethane	30. 2,2-Dichloropropane
31. <i>o</i> -Chlorotoluene	32. <i>p</i> -Chlorotoluene
33. Bromobenzene	34. 1,3-Dichloropropene
35. Ethylene dibromide (EDB)	36. 1,2-Dibromo-3-chloropropane (DBCP)

### Group A

1. Chloroform	12. Chloromethane
2. Bromodichloromethane	13. Bromoethane
3. Chlorodibromomethane	14. 1,2,3-Trichloropropane
4. Bromoform	15. 1,1,1,2-Tetrachloroethane
5. Chlorobenzene	16. Chloroethane
6. <i>m</i> -Dichlorobenzene	17. 2,2-Dichloropropane
7. Dibromomethane	18. <i>o</i> -Chlorotoluene
8. 1,1-Dichloropropene	19. <i>p</i> -Chlorotoluene
9. 1,1-Dichloroethane	20. Bromobenzene
10. 1,1,2,2-Tetrachloroethane	21. 1,3-Dichloropropene
11. 1,3-Dichloropropane	

### Group B

1. Aldrin	8. Metoachlor
2. Butachlor	9. Metribuzin

- |                        |                        |
|------------------------|------------------------|
| 3. Carbaryl            | 10. Propachlor         |
| 4. Dicamba             | 11. Aldicarb           |
| 5. Dieldrin            | 12. Aldicarb sulfone   |
| 6. Methomyl            | 13. Aldicarb sulfoxide |
| 7. 3-Hydroxycarbofuran |                        |

Table 2.7  
ORGANIC CHEMICAL MONITORING IMPLEMENTATION  
SCHEDULE

Number of Persons Served	Monitoring to Begin During the Quarter that Begins
over 10,000	January 1, 1988
3,300 to 10,000	January 1, 1989
less than 3,300	January 1, 1991

UNREGULATED CONTAMINANTS  
INORGANICS TO BE MONITORED

- |            |
|------------|
| 1. Sulfate |
|------------|

Table 2.8  
ORGANIC CHEMICAL MONITORING IMPLEMENTATION  
SCHEDULE

Number of Persons Served	Monitoring to Begin During the Quarter that Begins
over 10,000	January 1, 1988
3,300 to 10,000	January 1, 1989
less than 3,300	January 1, 1991

Table 2.9  
PMCL EFFECTIVE DATES

Table 2.3, Organics Chemicals, VOC 1 through 8 (Phase I)	January 9, 1989
Total Trihalomethanes and Fluoride	July 1, 1991
Table 2.3, Organics Chemicals, VOC 9 through 18 and SOC 1 through 14 (Phase II VOCs and SOCs)	July 30, 1992
Asbestos, Cadmium, Chromium, Mercury, Nitrate, Nitrite, Total Nitrate+Nitrite, Selenium (Phase II IOCs)	July 30, 1992
Table 2.3, Organics Chemicals, SOC 15 through 18 and Table 2.2, Inorganic Chemicals, Barium (Phase II SOCs and IOCs)	January 1, 1993
Table 2.3, Organics Chemicals, VOC 19 through 21, SOC 19 through 33 and Table 2.2, Inorganic Chemicals; antimony, beryllium, cyanide (as free cyanide), nickel, and thallium	January 17, 1994

12 VAC 5-590-970. Removal of volatile synthetic organic chemicals (VOCs).

The Best Available Technology (BAT) for achieving compliance with the PMCLs shall be considered to be Packed Tower Aeration (PTA) or Granular Activated Carbon (GAC) for all regulated VOCs except vinyl chloride for which

only PTA is considered the BAT. Other technologies, such as other aeration techniques, 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 may 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 12 VAC 5-590-870 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 12 VAC 5-590-910.)

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.

APPENDIX B

BACKGROUND USED IN DEVELOPING THE CHEMICAL,  
PHYSICAL AND RADIOLOGICAL LIMITS OF THE  
DRINKING WATER STANDARDS

ARSENIC

PRIMARY MAXIMUM CONTAMINANT LEVEL 0.05 mg/L

Arsenic, a metalloid that occurs ubiquitously in nature, is acutely and chronically toxic to man. Although no form of arsenic is known to be essential, it has been added in small amounts to animal feed as a growth stimulant. Arsenic has been associated with the occurrence of cancer, but its exact role as a carcinogen has not been determined because exposure apparently must be quite high and occur over an extended period before skin cancer develops. During low level chronic exposure, arsenic accumulates in the body even though clinical disease does not develop. This deposition is often measured by analysis of hair samples, and for exposures at or above the standard, increased body burden would be expected. Where arsenic occurs in nature, it will often be present in the air, water, and in locally grown food; because of its relatively high toxicity, the concentration of arsenic in drinking water shall be no greater than 0.05 mg/L in order to ensure a reasonable factor of safety in protecting the health of exposed population.

BARIUM

PRIMARY MAXIMUM CONTAMINANT LEVEL 1.0 mg/L

Barium ingestion can cause serious toxic effects on the heart, blood vessels, and nerves. Barium enters the body primarily

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through air and water since essentially no food contains barium in appreciable amounts.

There apparently has been no study made of the amounts of barium that may be tolerated in drinking water, nor any study of the effects of long term feeding of barium salts from which a limit might be derived. The present barium limit has been developed from the barium in air standard. By making assumptions as to retention of inhaled barium dusts and absorption from the intestines, including a safety factor, 1.0 mg/L should constitute a no effect level in water. Therefore, to protect human health, the concentration of barium in drinking water shall not exceed 1.0 mg/L.

## CADMIUM

PRIMARY MAXIMUM CONTAMINANT LEVEL 0.010 mg/L

Cadmium is a nonessential metal that has been demonstrated to be highly toxic. Cadmium has recently been associated with a severe bone and kidney syndrome in Japan. The apparent lack of the ability to excrete absorbed cadmium by animals and the accumulation of cadmium in renal and hepatic tissues of man also requires that intake of this element be limited. Consequently concentrations of cadmium in drinking water shall not exceed 0.010 mg/L.

## CHLORIDE

SECONDARY MAXIMUM CONTAMINANT LEVEL 250 mg/L

Chloride in drinking water should not exceed 250 mg/L, because concentrations above this limit may impart a detectable taste that is objectionable to some consumers. When chloride reaches these levels, this water should not be used for drinking or culinary purposes if better quality water is or can be made available.

## CHROMIUM

PRIMARY MAXIMUM CONTAMINANT LEVEL 0.05 mg/L

Chromium, in its various valence states, is toxic to man, produces lung tumors when inhaled, and induces skin sensitizations. Chromium occurs in some foods, in air, including cigarette smoke, and in some water supplies. To avoid jeopardizing the public health, chromium in the drinking water shall not exceed 0.05 mg/L.

## COLOR

SECONDARY MAXIMUM CONTAMINANT LEVEL 15  
COLOR UNITS

Although the intensity of color does not directly measure the safety of the water, it is related to consumer acceptance of the water. This limit is based on the level at which color becomes objectionable to a considerable number of people. Experience has shown that if water is too colored, many people will turn to alternate supplies that may be less safe.

## COPPER

ACTION LEVEL 1.3 mg/L

Copper is an essential and beneficial element in human metabolism. The daily copper requirement for adults has been estimated to be 2.0 mg. Preschool age children require about 0.1 mg daily for normal growth. Copper at high doses

has, however, been shown to cause stomach and intestinal distress, liver and kidney damage, and anemia.

A primary source of high concentrations of copper in drinking water is from the internal corrosion of copper plumbing within the home. The EPA has established an action level of 1.3 mg/L of copper in first draw tap sample which may result in public waterworks installing measures to control corrosion.

## CORROSION

### SECONDARY MAXIMUM CONTAMINANT LEVEL NONCORROSIVE

Corrosion is responsible for many problems in the water distribution system including tuberculation with loss of carrying capacity and increased pumping costs, leaks, main ruptures, discoloration and loss of chlorine residual. The corrosivity of drinking water is a parameter which has not only esthetic and economic significance, but is health significant as well. The products of corrosion having the greatest health significance at the present time, cadmium and lead, are addressed as primary maximum contaminants, but there is also a sufficient basis to include corrosivity as a secondary maximum contaminant level.

Corrosivity is controlled by pH adjustment, the use of chemical stabilizers, or other means which are dependent upon the specific conditions of the water. The two major corrosion indicators utilized in Virginia are the Langelier Index (L.I.) and the Aggressive Index (A.I.). Other indicators also exist. The L.I. and A.I. are determined by utilizing some or all of the following parameters:

- pH
- Calcium Hardness
- Alkalinity
- Temperature
- TDS

All waterworks owners will be notified periodically of the corrosivity of their drinking water by the division, either as L.I., A.I. or other appropriate index. Noncorrosive water should be the goal of each waterworks owner.

Furthermore, EPA requires each owner to be aware of type of materials used in the distribution system (including service connections and household plumbing) such as:

### LEAD

Pipe  
Solder  
Caulking  
Lining of Distribution Mains  
Household Plumbing

### GALVANIZED

Service Lines  
Household Plumbing

### COPPER

Piping  
Service Lines  
Household Plumbing  
Ferrous Piping (cast iron and steel)  
Asbestos Cement Pipe  
Vinyl Lined Asbestos Cement Pipe  
Coal Tar Lined Pipes

Plastic Pipe

Piping

Service Line

Household Plumbing

LEAD

ACTION LEVEL 0.015 mg/L

Lead is a toxic metal that tends to accumulate in the bone of man and animals. Signs of lead intoxication include gastrointestinal disturbances, fatigue, anemia, muscular paralysis, and encephalopathy. Irreversible damage to the brain is the frequent result of lead intoxication in children because of their eating lead containing paint still found in older homes. The most serious effects on the nervous system are seldom seen in the adult population however.

Household plumbing has been identified as a significant contributor of lead to our drinking water; therefore, any notice to the public concerning lead should advise persons served by the system to use only the cold water faucet for drinking and for use in cooking or preparing baby formula, and to run the water until it gets as cold as it is going to get before each use. If there has recently been major water use in the household, such as showering or bathing, flushing toilets, or doing laundry with cold water, flushing the pipes should take 5 to 30 seconds, if not, flushing the pipes could take as long as several minutes. Each notice (see §2.10A8) should also advise persons served by the system to check to see if lead pipes, solder, or flux have been used in plumbing that provides tap water and to ensure that new plumbing and plumbing repairs use lead free materials.

The EPA's national primary drinking water regulation requires all public water systems to optimize corrosion control to minimize lead contamination resulting from the corrosion of plumbing materials. Public water systems serving 50,000 people or fewer that have lead concentrations below 15 parts per billion (ppb) in more than 90% of tap water samples (the EPA "action level") have optimized their corrosion control treatment. Any water system that exceeds the action level must also monitor their source water to determine whether treatment to remove lead in source water is needed. Any water system that continues to exceed the action level after installation of corrosion control and/or source water treatment must eventually replace all lead service lines contributing in excess of 15 ppb of lead to drinking water. Any water system that exceeds the action level must also undertake a public education program to inform consumers of ways they can reduce their exposure to potentially high levels of lead in drinking water.

The only way to be sure of the amount of lead in the household water is to have the water tested by a competent laboratory. Testing is especially important to apartment dwellers because flushing may not be effective in high rise buildings that have lead soldered central piping. As appropriate, the notice should provide information on testing.

MANGANESE

SECONDARY MAXIMUM CONTAMINANT LEVEL 0.05 mg/L

The principal reason for limiting the concentration of manganese is to provide water quality control and thus reduce the esthetic and economic problems. It produces a brownish discoloration in laundered goods and impairs the taste of beverages, including tea and coffee. Because of the problems caused and the difficulty of removing manganese to

FLUORIDE

PRIMARY MAXIMUM CONTAMINANT LEVEL 4.0 mg/L

SECONDARY MAXIMUM CONTAMINANT LEVEL 2.0 mg/L

When the fluoride concentration in drinking water is maintained within the recommended ranges of 0.8 mg/L minimum and 1.0 mg/L maximum with the optimum being 0.9 mg/L, the consumer will realize a reduction in dental caries. When supplemental fluoridation is practiced, it is particularly advantageous to maintain a fluoride concentration at or near the optimum. The reduction in dental caries experienced at optimal fluoride concentrations will be diminished by as much as 50% when the concentration is 0.2 mg/L below the optimum. An approval limit slightly higher than the optimum can be tolerated without any mottling of teeth, so where fluorides are native to the water supply, these concentrations are acceptable. Higher levels should be reduced by treatment or blending with other sources lower in fluoride content. The U.S. Environmental Protection Agency has determined that the PMCL for fluoride is 4.0 mg/L based on long term toxicity data. The EPA has also determined that the SMCL for fluoride is 2.0 mg/L based on the potential formation of cosmetically objectionable dental fluorosis as a result of long term exposure. The level of the SMCL was based on a balancing of the beneficial and undesirable effects of fluoride.

FOAMING AGENTS

SECONDARY MAXIMUM CONTAMINANT LEVEL 0.5 mg/L as Methylene

Blue Active Substance

Foaming is an undesirable property of drinking water because it is esthetically displeasing and therefore should be absent. Because no convenient standardized formability test exists, and because surfactants are one major class of substances that cause foaming, this property is determined indirectly by measuring the anionic surfactant concentration of substances measured by the methylene blue method and should not exceed 0.5 mg/L as methylene blue active substances (MBAS).

IRON

SECONDARY MAXIMUM CONTAMINANT LEVEL 0.3 mg/L

Iron is a highly objectionable constituent in water supplies for either domestic or industrial use. Iron may impart brownish discolorations to laundered goods. The taste that it imparts to water may be described as bitter or astringent, and may adversely affect the taste of other beverages.

Diets contain 7 to 35 mg. of iron per day, and average 16. The amount of iron permitted in water by quality control to prevent objectionable taste or laundry staining, constitutes only a small fraction of the amount normally consumed and does not have toxicologic significance.

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residual concentrations less than 0.05 mg/L and of measuring such concentrations, it should be limited to a maximum of 0.05 mg/L.

## MERCURY

### PRIMARY MAXIMUM CONTAMINANT LEVEL—0.002 mg/L

Mercury vapor and the numerous mercury compounds that are widely used are extremely toxic, whereas metallic mercury is relatively harmless upon oral administration. Of the organic forms (alkyl, alkoxyalkyl, and aryl) of mercury, the alkyl forms are by far the most toxic to man. The propensity of these mercurials for the nervous system, their ability to cross the placenta, and their effect on developing tissue render them particularly hazardous to man. In raw water and sediments, inorganic mercury, which is widely distributed as a result of both natural deposits and manmade sources, is converted by microbial action to the extremely toxic alkyl forms. Alkyl mercury from such reactions is readily incorporated into food chains of aquatic life and concentrates substantially in the larger members of the chains. Because mercury and its compounds are highly toxic and occur in water and air as well as foods, the concentration of total mercury in drinking water shall not exceed 0.002 mg/L to ensure adequate protection for the health of the population.

## NITRATE

### PRIMARY MAXIMUM CONTAMINANT LEVEL—10 mg/L as Nitrogen

Waters with a nitrate concentration exceeding the standard when used for infant feeding have caused a serious and occasional fatal poisoning of infants. Several factors make the infant susceptible to this disease while older children and adults are not affected. The nitrate in the water is converted to nitrite by bacterial action in the infant's stomach, and the nitrite is absorbed and combines with hemoglobin to form methemoglobin. This results in reduced oxygen transport, and the baby develops methemoglobinemia. To avoid the possibility of forming methemoglobin by nitrate reduction, the concentration of nitrate nitrogen in drinking water shall not exceed 10 mg/L.

Nitrate nitrogen (NO<sub>3</sub>-N) levels not exceeding 20 mg/L may be allowed in a noncommunity waterworks if the owner demonstrates:

1. Such water will not be available to children under 6 months of age; and
2. There will be continuous posting of the fact that NO<sub>3</sub>-N levels exceed 10 mg/L and the potential health effects of exposure; and
3. Health officials will be notified annually of NO<sub>3</sub>-N levels that exceed 10 mg/L; and
4. No adverse health effects will result.

NOTE: Nitrite in water poses a greater health hazard but fortunately it seldom occurs in high concentrations. Waters with nitrite-nitrogen concentrations over 1 mg/L should not be used for infant feedings.

## ODOR

### SECONDARY MAXIMUM CONTAMINANT LEVEL—3 Threshold Odor Number

Although the intensity of odor does not directly measure the safety of the water, it is related to consumer acceptance of water. This limit is based on the level at which odor becomes objectionable to a considerable number of people.

Experience has shown that if water is too odorous, many people will turn to alternate supplies that may be less safe.

Distribution of drinking water having little or no odor will indirectly ensure that certain specific contaminants are absent, or are present at very low levels. For example phenol should not be present at concentrations above 1 mg/L or odorous water will be produced during disinfection with chlorine. For these reasons, the Threshold Odor Number (T.O.N.) of drinking water should not exceed three.

## PESTICIDES

### CHLORINATED HYDROCARBON INSECTICIDES

#### PRIMARY MAXIMUM CONTAMINANT LEVELS

	mg/L
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005

Although restrictions of use are currently being proposed for a number of chlorinated hydrocarbon insecticides, their continued use for human disease control and for other essential uses for which no alternative is available, as well as their persistence in the environment, makes it necessary that a limit be placed on the concentrations of these pesticides in drinking water. From knowledge of the toxicity of these agents to man and experimental animals, and from information about total exposure of man to these compounds, the above limits have been established to protect, with a reasonable factor of safety, the health of the population.

### Chlorophenoxy Herbicides

#### PRIMARY MAXIMUM CONTAMINANT LEVELS

	mg/L
2, 4—Dichlorophenoxyacetic acid (2, 4-D)	0.1
2, 4, 5—Trichlorophenoxypropionic Acid (2, 4, 5-TP or Silvex)	0.01

Chlorophenoxy herbicides are used extensively for aquatic weed control. The application of these agents to water that may serve as the source of municipal water supplies increases the likelihood of contamination of drinking water with the consequent exposure of the population to these chemicals. Silvex and 2, 4-D are moderately toxic to mammals. To minimize hazards to human health from the ingestion of these compounds the above limits shall not be exceeded in drinking water.

## RADIOACTIVITY

### Alpha Activity

#### PRIMARY MAXIMUM CONTAMINANT LEVEL

Substances that emit ionizing radiation in the form of alpha particles are harmful to the tissue of the organ in which they lodge because of the generally high transfer of energy from alpha particles to surrounding tissue. Of all the substances frequently found in water that emit alpha particles, one, radium 226, is particularly hazardous because it produces a chain of alpha emitting decay products, it is retained in the bone, and it has a long biological half life. For these reasons, radium 226 and its subsequent decay products can cause bone cancer.

For the purpose of monitoring radioactivity concentrations in drinking water, the required sensitivity of the radioanalysis is defined in terms of a detection limit. The detection limit shall be that concentration which can be counted with a precision of plus or minus 100% at the 95% confidence level (1.96, where 1.96 is the standard deviation of the net counting rate of the sample). To determine compliance with Table 2.5A the detection limit shall not exceed 1 pCi/L. To determine compliance with Table 2.5B the detection limit shall not exceed 3 pCi/L.

### MAN-MADE RADIONUCLIDES

#### Beta Particle and Photon Radioactivity

#### PRIMARY MAXIMUM CONTAMINANT LEVEL

Of those radionuclides that emit beta radiation strontium 90 is particularly hazardous because of its long biological half life, and its retention in bone, which causes leukemia and bone cancer in animals. Another important beta emitter is radioiodine because it is selectively concentrated in the thyroid gland. For the purpose of monitoring radioactivity concentrations in drinking water, the required sensitivity of the radioanalysis is defined in terms of a detection limit. The detection limit shall be that concentration which can be counted with a precision of plus or minus 100% at the 95% confidence level (1.96 where 1.96 is the standard deviation of the net counting rate of the sample).

To determine compliance with Table 2.5, the detection limits shall not exceed the concentrations listed in the following table.

DETECTION LIMITS FOR MAN-MADE BETA PARTICLE PHOTON EMITTERS	
RADIONUCLIDE	DETECTION LIMIT
Tritium	1,000 pCi/L
Strontium-89	10 pCi/L
Strontium-90	2 pCi/L
Iodine-131	1 pCi/L
Cesium-134	10 pCi/L
Gross Beta	4 pCi/L
Other radionuclides	1/10 of the applicable limit

## SELENIUM

#### PRIMARY MAXIMUM CONTAMINANT LEVEL 0.01 mg/L

Early evidence suggested that selenium was carcinogenic. These observations have not been borne out by subsequent data. In recent years, selenium has become recognized as a dietary essential in a number of species. However, excessive intakes of selenium (greater than 0.2 mg/Kg/day) produce adverse effects in a number of species. The only human data available suggests that as little as a three fold increase in selenium intake over that found in the average diet in the U.S. is associated with minor disturbances in physiologic function. At a maximum level of 0.01 mg/liter, water would increase the intake of selenium over that in the diet by less than 10%.

Consequently, to maintain the rather narrow margin of safety imposed by the background ingestion of selenium from food, drinking water shall not contain more than 0.01 mg/liter of selenium.

## SILVER

#### PRIMARY MAXIMUM CONTAMINANT LEVEL 0.05 mg/L

A water standard for silver is needed because of its intentional addition to water for disinfection. Its principal effect in the body is cosmetic: any amount greater than 1 gram of silver in an adult causes a permanent gray discoloration of skin, eyes, and mucous membranes. Assuming that all silver ingested in water is deposited in the skin, eyes and mucous membranes, it is calculated that 0.05 mg/L silver could be ingested for approximately 27 years without exceeding silver deposition of 1 gram.

Because of the evidence that silver once absorbed is held indefinitely in the tissues, and because of the possibility of silver absorption from certain cooked foods and from silver treated water, the concentration in drinking water shall not exceed 0.05 mg/L.

## SODIUM

#### No Limits Designated

For a healthy individual, the intake of sodium is discretionary and is influenced by food selection and seasoning. The intake of sodium may average 6 grams per day without adverse health effects. Physicians do recommend, however, various restricted sodium intakes of a significant portion of the population, including persons suffering from hypertension, edema associated with congestive heart failure, and women with toxemia of pregnancy. For some persons, the sodium intake is "strict" 500 mg per day divided between food and water, as shown below.

#### Sodium Content of a Strict Diet

Food	440 mg/day
Non food	
Water (20 mg/L x 2 L/day)	40 mg/day
Incidentals	20 mg/day 60 mg/day
Total	500 mg/day

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Because prescribed diets for these individuals allow for only 20 mg sodium per liter to be present in drinking water and water used for cooking, persons on a "strict" sodium intake would have to use distilled water or deionized water except when the sodium concentration in a public supply was less than 20 mg per liter. For persons on a "moderately restricted" diet, a total intake of 1000 mg of sodium per day is allowed. One half of this intake, 500 mg sodium per day, is allocated as in the "strict diet" above.

The remaining 500 mg/day intake is allocated either for the use of 1/4 teaspoon of salt, some regular bakery bread and/or salted butter, or the use of drinking and cooking water with a sodium content above the 20 mg/L concentration allowed in the "strict" diet. The division of the "moderately restricted" diet is shown below.

## Sodium Content of Moderately Restricted Diet

Strict Diet Allocation (as above)	400 mg/day
Food	
Non-food	
Water	400 mg/day
Incidentals	20 mg/day 60 mg/day
Total	500 mg/day
Additional Allowance	
Food	
or	
Water	500 mg/day
Total	1,000 mg/day

Considering the difficulty of removing sodium from drinking water, all of the additional daily allowance of sodium permitted in this diet is allocated to water. Based on this allocation, the total daily intake of sodium from drinking water in this diet would be 540 mg/day. Assuming a daily use of 2 liters of water for drinking and culinary purposes, a limit of 270 mg per liter would provide a maximum intake from water of 540 milligrams of sodium per day. Such water could be used by persons on a moderately or less restricted sodium intake. The sodium content of drinking water, however, should not be increased for frivolous reasons. Home water softeners or conditioners increase the sodium content of water. The portion of the water that is supplied to taps for drinking or cooking for persons on any sodium restricted diet should not be softened by sodium ion exchange. Because the response of people who should restrict their sodium intake for health reasons represents a continuum of response versus intake, and because the allocation of all the difference between the dietary intake, between the strict and the moderately restricted diet is allocated to drinking water, a Maximum Contaminant Level for Sodium would be a somewhat arbitrary selection.

However, waters containing high concentrations of sodium are likely to be too highly mineralized to be considered desirable from esthetic standpoints aside from health considerations.

Treatment of the entire public water supply to remove sodium is quite costly but home treatment for drinking water alone for those needing low sodium water can be done at relatively

modest costs or low sodium content bottled water can be used.

For the above reasons, water containing more than 270 mg/L of sodium should not be used for drinking water by those on moderately restricted sodium diets, and water containing more than 20 mg/L should not be used by those on severely restricted diets.

Local health officials shall be notified by the division of the sodium content of all public water supplies in order that they may advise physicians in the area. Such information is also available to the general public upon request.

## SULFATE

### SECONDARY MAXIMUM CONTAMINANT LEVEL 250 mg/L

Drinking water should be low in sulfate ion because of the taste and laxative effect produced by some sulfate salts. The laxative effect is generally more pronounced in newcomers because one becomes acclimated to these waters in a relatively short time. To protect this segment of the public from discomfort caused by excessive sulfate content in drinking water and to avoid any taste problems, its concentration should not exceed 250 mg/L if better quality water is or can be made available.

## TOTAL TRIHALOMETHANES

### PRIMARY MAXIMUM CONTAMINANT LEVEL 0.10 mg/L

Total trihalomethanes are defined as trichloromethane (chloroform), dibromochloromethane, bromodichloromethane and tribromomethane (bromoform). The principal source of the total trihalomethanes in drinking water is the chemical interaction of the chlorine added for disinfection and other purposes with the commonly present natural humic and fulvic substances and other precursors. The level of trihalomethanes in drinking water will vary depending upon the season, chlorine contact time, water temperature, pH, type and chemical composition and treatment methodology.

EPA has stated that sufficient scientific evidence has been accumulated to conclude that chloroform is an animal carcinogen and should be presumed to be a risk to humans and that, as such, prudent public health warrants reasonable measures to reduce human exposure.

## TURBIDITY

### PRIMARY MAXIMUM CONTAMINANT LEVEL 1 TU

Turbidity in drinking water shall not exceed one turbidity unit at the point where water enters the distribution system except where it can be demonstrated that a higher turbidity not exceeding 5 TU does not: (1) interfere with disinfection, (2) cause tastes and odors upon disinfection, (3) prevent the maintenance of an effective disinfection agent throughout the distribution system, (4) result in deposits in the distribution system, and (5) cause consumers to question the safety of their drinking water.

Operational requirement: water filtration plants utilizing surface waters as a source of supply are capable of producing filtered water with a turbidity consistently less than 0.5 TU. Therefore, for water filtration plants the filter effluent

turbidity for each filter, before any post-filtration chemical addition, operational limit is 0.5 TU.

## VOLATILE ORGANIC CHEMICALS (VOCs)

### Primary Maximum Contaminant Levels

	mg/L
Benzene	0.005
Vinyl chloride	0.002
Carbon tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene (TCE)	0.005
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.20
para-Dichlorobenzene	0.075

VOCs are manmade carbon based chemicals that vaporize when they come in contact with air. These chemicals are commonly used as fumigants, solvents, degreasers, and dry cleaning chemicals. Because they are so widely used, VOCs become present in water systems through runoff, accidental spillage, and improper disposal of industrial, agricultural, and domestic waste. Higher levels can be found in ground water systems since VOCs in surface water readily evaporate or are broken down by sunlight.

VOCs pose a possible health risk to humans. Toxic effects may be induced after short term or long term exposure. Such toxic effects can include nausea, drowsiness, loss of balance, and unconsciousness. Very high concentrations of VOCs can produce adverse effects on the central nervous systems. To reduce the health risks associated with VOCs, drinking water standards or maximum contaminant levels have been established for the eight most prevalent VOCs in waterworks. The reasons of concern for each contaminant are as follows:

Trichloroethylene, carbon tetrachloride, and 1,2-dichloroethane: These chemicals cause cancer in mice and rats when given at very high doses over the animals' lifetime. They are therefore considered to be probable human carcinogens through long-term exposure.

Vinyl chloride and benzene: Exposure of people over long periods of time to these chemicals has resulted in an increased cancer risk and are therefore considered known human carcinogens.

1,1-Dichloroethylene and para-dichlorobenzene: These chemicals are a health concern to humans who are exposed to higher doses over long periods of time. Liver and kidney effects may result from chronic exposure. There is some, but not conclusive, evidence they may cause cancer in animals at high doses over the animals' lifetime.

1,1,1-Trichloroethane: This chemical is considered toxic to the liver, nervous system, and circulatory system of humans and laboratory animals when they are exposed at higher doses.

## ZINC

### SECONDARY MAXIMUM CONTAMINANT LEVEL—5 mg/L

Zinc is an essential and beneficial element in human metabolism. The daily requirement for preschool children is 0.5 mg/kg, and the activity of several body enzymes is

dependent on zinc. Individuals drinking water containing 24-44 mg/L of zinc experienced no harmful effects, and communities have used water containing 11-27 mg/L of zinc without reported harmful effects. Another report states that spring water containing 50 mg/L of zinc was used for a protracted period without harm.

Thus, zinc in water does not cause serious health effects. It does, however, produce a taste in water, described as "bitter" or "astringent" which could be detected by about 50% of the test panel at levels of around 30 mg/L and by about 5.0% of the test panel at levels of around 5 mg/L. To avoid any possibility of taste in drinking water from zinc, its concentration should not exceed 5 mg/L if a better quality water is or can be made available.

## APPENDIX F

### CHECKLIST OF PUBLIC NOTICE CONTENTS

The notice provides a clear and readily understandable explanation of the

1. violation/action
2. potential adverse health effects (mandatory health effects language)
3. population at risk
4. steps the system is taking to correct the violation
5. necessity of seeking alternative water supplies (if any)
6. preventive measures the consumer should take until the violation corrected

The notice

7. is clear and conspicuous in design
8. contains nontechnical language
9. uses print that is easily read
10. content creates no problems that would frustrate the purpose of public notification
11. contains the telephone number of the owner, operator, or designee of the waterworks as a source of additional information
12. contains multi-lingual information, where appropriate

NOTE: The circled numbers on the example correspond to items found in the checklist above. NA means not applicable in this situation.

FORMAT: Public Notice with Health Effects Language

July 1, 1991 Regional Water Authority

Upper Water System Encounters Delay in Lowering Nitrate Levels.

Water From This Location Should Not Be Given To Children Under One Year Of Age.

SITUATION The Regional Water Authority has announced a delay in installation of water treatment equipment. As a result:

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**STOP -** Water available at this water system may be slightly higher in nitrates than recommended and should not be given to children under one year of age, or used in making baby formula.

**GENERAL INFORMATION** Water measured at this water system contained 12 milligrams of nitrate per liter of water. That is slightly higher than the nitrate limit of 10 milligrams per liter, established by the State Health Department. The Authority has ordered special water treatment equipment that is designed to lower nitrate levels, and was scheduled to have the equipment installed by June. The Turnpike Authority was granted an exemption by the State Health Department to meet that deadline. However, because of installation delays, the equipment will not be installed until August. An application has been made to the State Health Department to approve that schedule.

**HEALTH INFORMATION** The United States Environmental Protection Agency (EPA) sets drinking water standards. Insert "Mandatory Language Here".  
Safe Water Available - Low nitrate, safe water is available free of charge from the Lucky Lady restaurant.

**INFORMATION** The Authority regrets the inconvenience. If you have questions regarding nitrates or the schedule for completing this work, please contact:  
  
Bob Bullet  
Regional Water Authority  
(804) 555-4266

## MANDATORY HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION OF A VIOLATION OF PMCLs, TREATMENT TECHNIQUE REQUIREMENTS, THE GRANTING OF A VARIANCE OR EXEMPTION, OR SCHEDULE OF A VARIANCE OR EXEMPTION.

1. Trichloroethylene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that trichloroethylene is a health concern at certain levels of exposure. This chemical is a common metal cleaning and dry cleaning fluid. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set forth the enforceable drinking water standard for trichloroethylene at 0.005 mg/L to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking

water which meets this standard is associated with little to none of this risk and should be considered safe.

2. Carbon tetrachloride. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that carbon tetrachloride is a health concern at certain levels of exposure. This chemical was once a popular household cleaning fluid. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for carbon tetrachloride at 0.005 mg/L to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

3. 1,2-Dichloroethane. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 1,2-dichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaning fluid for fats, oils, waxes, and resins. It generally gets into drinking water from improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals may also increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for 1,2-dichloroethane at 0.005 mg/L to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

4. Vinyl chloride. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that vinyl chloride is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally get into drinking water by improper waste disposal. This chemical has been associated with significantly increased risks of cancer among certain industrial workers who were exposed to relatively large amounts of this chemical during their working careers. This chemical has also been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes. Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for vinyl chloride at 0.002 mg/L to reduce the risk of cancer or other adverse health

effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

5. Benzene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that benzene is a health concern at certain levels of exposure. This chemical is used as a solvent and degreaser of metals. It is also a major component of gasoline. Drinking water contamination generally results from leaking underground gasoline and petroleum tanks or improper waste disposal. This chemical has been associated with significantly increased risks of leukemia among certain industrial workers who were exposed to relatively large amounts of this chemical during their working careers. This chemical has also been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes. Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for benzene at 0.005 mg/L to reduce the risk of cancer or other adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

6. 1,1-Dichloroethylene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 1,1-dichloroethylene is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally get into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals which cause adverse health effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for 1,1-dichloroethylene at 0.007 mg/L to reduce the risk of these adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

7. Para-dichlorobenzene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that para-dichlorobenzene is a health concern at certain levels of exposure. This chemical is a component of deodorizers, moth balls, and pesticides. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed to high levels over their lifetimes.

Chemicals which cause adverse effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for para-dichlorobenzene at 0.075 mg/L to reduce the risk of these adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

8. 1,1,1-Trichloroethane. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the 1,1,1-trichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaner and degreaser of metals. It generally gets into drinking water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetime. Some industrial workers who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the liver, nervous system, and circulatory system. Chemicals which cause adverse health effects among exposed industrial workers and in laboratory animals may also cause adverse health effects in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for 1,1,1-trichloroethane at 0.2 mg/L to protect against the risk of these adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

9. Reserved.

10. Lead. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that lead is a health concern at certain levels of exposure. There is currently a standard of 0.050 mg/L. Based on new health information, EPA is likely to lower this standard significantly.

Part of the purpose of the lead notice (see 12 VAC 5-590-540 A 8) is to inform you of the potential adverse health effects of lead.

This is being done even though your water may not be in violation of the current standard. EPA and others are concerned about lead in drinking water. Too much lead in the human body can cause serious damage to the brain, kidneys, nervous system, and red blood cells. The greatest risk, even with short term exposure, is to young children and pregnant women.

Lead levels in your drinking water are likely to be highest:

- a. if your home or water system has lead pipes, or
- b. if your home has copper pipes with lead solder, and
- c. if the home is less than five years old and built before 1988, or
- d. if you have soft or acidic water, or

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e. if water sits in the pipes for several hours.

11. **Mandatory Language for Total Coliform Violations.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of total coliforms is a possible health concern. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria in drinking water, however, generally is a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set an enforceable drinking water standard for total coliforms to reduce the risk of these adverse health effects. Under this standard, no more than 5.0% of the samples collected during a month can contain these bacteria, except that systems collecting fewer than 40 samples/month that have one total coliform positive sample per month are not violating the standard. Drinking water which meets this standard is usually not associated with a health risk from disease causing bacteria and should be considered safe.

12. **Mandatory Language For Fecal Coliform/E. coli Violation.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of fecal coliforms or E. coli is a serious health concern. Fecal coliforms and E. coli are generally not harmful themselves, but their presence in drinking water is serious because they usually are associated with sewage or animal wastes. The presence of these bacteria in drinking water is generally a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and associated headaches and fatigue. These symptoms, however, are not just associated with disease causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set an enforceable drinking water standard for fecal coliforms and E. coli to reduce the risk of these adverse health effects. Under this standard all drinking water samples must be free of these bacteria. Drinking water which meets this standard is associated with little or none of this risk and should be considered safe. The Virginia Department of Health recommends that consumers take the following precautions:

(To be inserted by the waterworks according to instructions from state or local authorities.)

13. **Microbiological Contaminants (for use when there is a violation of the treatment technique requirements for filtration and disinfection in Subpart II of this part).** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that

the presence of microbiological contaminants are a health concern at certain levels of exposure. If water is inadequately treated, microbiological contaminants in that water may cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set enforceable requirements for treating drinking water to reduce the risk of those adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. Drinking water which is treated to meet EPA requirements is associated with little to none of this risk and should be considered safe.

14. (Reserved)

15. **Asbestos.** *The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that asbestos fibers greater than 10 micrometers in length are a health concern at certain levels of exposure. Asbestos is a naturally occurring mineral. Most asbestos fibers in drinking water are less than 10 micrometers in length and occur in drinking water from natural sources and from corroded asbestos-cement pipes in the distribution system. The major uses of asbestos were in the production of cements, floor tiles, paper products, paint, and caulking; in transportation-related applications; and in the production of textiles and plastics. Asbestos was once a popular insulating and fire retardant material. Inhalation studies have shown that various forms of asbestos have produced lung tumors in laboratory animals. The available information on the risk of developing gastrointestinal tract cancer associated with the ingestion of asbestos from drinking water is limited. Ingestion of intermediate-range chrysotile asbestos fibers greater than 10 micrometers in length is associated with causing benign tumors in male rats. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for asbestos at 7 million long fibers per liter to reduce the potential risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to asbestos.*

16. **Barium.** *The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that barium is a health concern at certain levels of exposure. This inorganic chemical occurs naturally in some aquifers that serve as sources of groundwater. It is also used in oil and gas drilling muds, automotive paints, bricks, tiles and jet fuels. It generally gets into drinking water after dissolving from naturally occurring minerals in the ground. This chemical may damage the heart and cardiovascular system, and is associated with high blood pressure in laboratory animals such as rats exposed to high levels during their lifetimes. In humans, EPA believes that effects from*

barium on blood pressure should not occur below 2 parts per million (ppm) in drinking water. EPA has set the drinking water standard for barium at 2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to barium.

17. Cadmium. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that cadmium is a health concern at certain levels of exposure. Food and the smoking of tobacco are common sources of general exposure. This inorganic metal is a contaminant in the metals used to galvanize pipe. It generally gets into water by corrosion of galvanized pipes or by improper waste disposal. This chemical has been shown to damage the kidney in animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the kidney. EPA has set the drinking water standard for cadmium at 0.005 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to cadmium.

18. Chromium. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that chromium is a health concern at certain levels of exposure. This inorganic metal occurs naturally in the ground and is often used in the electroplating of metals. It generally gets into water from runoff from old mining operations and improper waste disposal from plating operations. This chemical has been shown to damage the kidney, nervous system, and the circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels. Some humans who were exposed to high levels of this chemical suffered liver and kidney damage, dermatitis and respiratory problems. EPA has set the drinking water standard for chromium at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to chromium.

19. Mercury. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that mercury is a health concern at certain levels of exposure. This inorganic metal is used in electrical equipment and some water pumps. It usually gets into water as a result of improper waste disposal. This chemical has been shown to damage the kidney of laboratory animals such as rats when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for mercury at 0.002 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to mercury.

20. Nitrate. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nitrate poses an acute health concern at certain levels of exposure. Nitrate is used in fertilizer and is found in sewage and wastes from human and/or farm animals and generally gets into drinking water from those activities. Excessive levels of nitrate in drinking water have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrate is converted to nitrite in the body. Nitrite interferes with the oxygen carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly in infants. In most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and state health authorities are the best source for information concerning alternate sources of drinking water for infants. EPA has set the drinking water standard at 10 parts per million (ppm) for nitrate to protect against the risk of these adverse effects. EPA has also set a drinking water standard for nitrite at 1 ppm. To allow for the fact that the toxicity of nitrate and nitrite are additive, EPA has also established a standard for the sum of nitrate and nitrite at 10 ppm. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to nitrate.

21. Nitrite. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nitrite poses an acute health concern at certain levels of exposure. This inorganic chemical is used in fertilizers and is found in sewage and wastes from humans and/or farm animals and generally gets into drinking water as a result of those activities. While excessive levels of nitrite in drinking water have not been observed, other sources of nitrite have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrite interferes with the oxygen carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly. However, in most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and state health authorities are the best source for information concerning alternate sources of drinking water for infants. EPA has set the drinking water standard at 1 part per million (ppm) for nitrite to protect against the risk of these adverse effects. EPA has also set a drinking water standard for nitrate (converted to nitrite in humans) at 10 ppm and for the sum of nitrate and nitrite at 10 ppm. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to nitrite.

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22. *Selenium.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that selenium is a health concern at certain high levels of exposure. Selenium is also an essential nutrient at low levels of exposure. This inorganic chemical is found naturally in food and soils and is used in electronics, photocopy operations, the manufacture of glass, chemicals, drugs, and as a fungicide and a feed additive. In humans, exposure to high levels of selenium over a long period of time has resulted in a number of adverse health effects, including a loss of feeling and control in the arms and legs. EPA has set the drinking water standard for selenium at 0.05 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to selenium.

23. *Acrylamide.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that acrylamide is a health concern at certain levels of exposure. Polymers made from acrylamide are sometimes used to treat water supplies to remove particulate contaminants. Acrylamide has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. Sufficiently large doses of acrylamide are known to cause neurological injury. EPA has set the drinking water standard for acrylamide using a treatment technique to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. This treatment technique limits the amount of acrylamide in the polymer and the amount of the polymer which may be added to drinking water to remove particulates. Drinking water systems which comply with this treatment technique have little to no risk and are considered safe with respect to acrylamide.

24. *Alachlor.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that alachlor is a health concern at certain levels of exposure. This organic chemical is a widely used pesticide. When soil and climatic conditions are favorable, alachlor may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for alachlor at 0.002 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to alachlor.

25. Reserved

26. Reserved

27. Reserved

28. *Atrazine.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that atrazine is a health concern at certain levels of exposure. This organic chemical is a herbicide. When soil and climatic conditions are favorable, atrazine may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to affect offspring of rats and the heart of dogs. EPA has set the drinking water standard for atrazine at 0.003 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to atrazine.

29. *Carbofuran.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that carbofuran is a health concern at certain levels of exposure. This organic chemical is a pesticide. When soil and climatic conditions are favorable, carbofuran may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to damage the nervous and reproductive systems of laboratory animals such as rats and mice exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the nervous system. Effects on the nervous system are generally rapidly reversible. EPA has set the drinking water standard for carbofuran at 0.04 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to carbofuran.

30. *Chlordane.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that chlordane is a health concern at certain levels of exposure. This organic chemical is a pesticide used to control termites. Chlordane is not very mobile in soils. It usually gets into drinking water after application near water supply intakes or wells. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for chlordane at 0.002 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to chlordane.

31. *Dibromochloropropane (DBCP).* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that DBCP is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable,

dibromochloropropane may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for DBCP at 0.0002 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to DBCP.

32. *o*-Dichlorobenzene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that *o*-dichlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a solvent in the production of pesticides and dyes. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and the blood cells of laboratory animals such as rats and mice exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the liver, nervous system, and circulatory system. EPA has set the drinking water standard for *o*-dichlorobenzene at 0.6 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to *o*-dichlorobenzene.

33. *cis*-1,2-Dichloroethylene. The United States Environmental Protection Agency (EPA) establishes drinking water standards and has determined that *cis*-1,2-dichloroethylene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and intermediate in chemical production. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. EPA has set the drinking water standard for *cis*-1,2-dichloroethylene at 0.07 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to *cis*-1,2-dichloroethylene.

34. *trans*-1,2-Dichloroethylene. The United States Environmental Protection Agency (EPA) establishes drinking water standards and has determined that *trans*-1,2-dichloroethylene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and intermediate in chemical production. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, nervous

system, and the circulatory system of laboratory animals such as rats and mice when exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. EPA has set the drinking water standard for *trans*-1,2-dichloroethylene at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to *trans*-1,2-dichloroethylene.

35. 1,2-Dichloropropane. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 1,2-dichloropropane is a health concern at certain levels of exposure. This organic chemical is used as a solvent and pesticide. When soil and climatic conditions are favorable, 1,2-dichloropropane may get into drinking water by runoff into surface water or by leaching into groundwater. It may also get into drinking water through improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for 1,2-dichloropropane at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to 1,2-dichloropropane.

36. 2,4-D. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 2,4-D is a health concern at certain levels of exposure. This organic chemical is used as a herbicide and to control algae in reservoirs. When soil and climatic conditions are favorable, 2,4-D may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to damage the liver and kidney of laboratory animals such as rats exposed at high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. EPA has set the drinking water standard for 2,4-D at 0.07 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to 2,4-D.

37. Epichlorohydrin. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that epichlorohydrin is a health concern at certain levels of exposure. Polymers made from epichlorohydrin are sometimes used in the treatment of water supplies as a flocculent to remove particulates. Epichlorohydrin generally gets into drinking water by improper use of these polymers. This chemical has been shown to cause cancer in laboratory animals

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such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for epichlorohydrin using a treatment technique to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. This treatment technique limits the amount of epichlorohydrin in the polymer and the amount of the polymer which may be added to drinking water as a flocculent to remove particulates. Drinking water systems which comply with this treatment technique have little to no risk and are considered safe with respect to epichlorohydrin.

38. *Ethylbenzene.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined ethylbenzene is a health concern at certain levels of exposure. This organic chemical is a major component of gasoline. It generally gets into water by improper waste disposal or leaking gasoline tanks. This chemical has been shown to damage the kidney, liver, and nervous system of laboratory animals such as rats exposed to high levels during their lifetimes. EPA has set the drinking water standard for ethylbenzene at 0.7 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to ethylbenzene.

39. *Ethylene dibromide (EDB).* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that EDB is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, EDB may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for EDB at 0.00005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to EDB.

40. *Heptachlor.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that heptachlor is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, heptachlor may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer

in humans who are exposed over long periods of time. EPA has set the drinking water standards for heptachlor at 0.0004 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to heptachlor.

41. *Heptachlor epoxide.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that heptachlor epoxide is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, heptachlor epoxide may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standards for heptachlor epoxide at 0.0002 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to heptachlor epoxide.

42. *Lindane.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that lindane is a health concern at certain levels of exposure. This organic chemical is used as a pesticide. When soil and climatic conditions are favorable, lindane may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to damage the liver, kidney, nervous system, and immune system of laboratory animals such as rats, mice and dogs exposed at high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system and circulatory system. EPA has established the drinking water standard for lindane at 0.0002 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to lindane.

43. *Methoxychlor.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that methoxychlor is a health concern at certain levels of exposure. This organic chemical is used as a pesticide. When soil and climatic conditions are favorable, methoxychlor may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to damage the liver, kidney, nervous system, and reproductive system of laboratory animals such as rats exposed at high levels during their lifetimes. It has also been shown to produce growth retardation in rats. EPA has set the drinking water standard for methoxychlor at

0.04 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to methoxychlor.

44. **Monochlorobenzene.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that monochlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a solvent. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and nervous system of laboratory animals such as rats and mice exposed to high levels during their lifetimes. EPA has set the drinking water standard for monochlorobenzene at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to monochlorobenzene.

45. **Polychlorinated biphenyls (PCBs).** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that polychlorinated biphenyls (PCBs) are a health concern at certain levels of exposure. These organic chemicals were once widely used in electrical transformers and other industrial equipment. They generally get into drinking water by improper waste disposal or leaking electrical industrial equipment. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for PCBs at 0.0005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to PCBs.

46. **Pentachlorophenol.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that pentachlorophenol is a health concern at certain levels of exposure. This organic chemical is used as a wood preservative, herbicide, disinfectant, and defoliant. It generally gets into drinking water by runoff into surface water or leaching into groundwater. This chemical has been shown to produce adverse reproductive effects and to damage the liver and kidneys of laboratory animals such as rats exposed to high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the liver and kidneys. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for pentachlorophenol at 0.001 parts per million (ppm) to

protect against the risk of cancer or other adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to pentachlorophenol.

47. **Styrene.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that styrene is a health concern at certain levels of exposure. This organic chemical is commonly used to make plastics and is sometimes a component of resins used for drinking water treatment. Styrene may get into drinking water from improper waste disposal. This chemical has been shown to damage the liver and nervous system in laboratory animals when exposed at high levels during their lifetimes. EPA has set the drinking water standard for styrene at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to styrene.

48. **Tetrachloroethylene.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that tetrachloroethylene is a health concern at certain levels of exposure. This organic chemical has been a popular solvent, particularly for dry cleaning. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for tetrachloroethylene at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to tetrachloroethylene.

49. **Toluene.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that toluene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and in the manufacture of gasoline for airplanes. It generally gets into water by improper waste disposal or leaking underground storage tanks. This chemical has been shown to damage the kidney, nervous system, and circulatory system of laboratory animals such as rats and mice exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the liver, kidney and nervous system. EPA has set the drinking water standard for toluene at 1 part per million (ppm) to protect against the risk of adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to toluene.

50. **Toxaphene.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that toxaphene is a health concern

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at certain levels of exposure. This organic chemical was once a pesticide widely used on cotton, corn, soybeans, pineapples and other crops. When soil and climatic conditions are favorable, toxaphene may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for toxaphene at 0.003 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to toxaphene.

51. 2,4,5-TP. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 2,4,5-TP is a health concern at certain levels of exposure. This organic chemical is used as a herbicide. When soil and climatic conditions are favorable, 2,4,5-TP may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to damage the liver and kidney of laboratory animals such as rats and dogs exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the nervous system. EPA has set the drinking water standard for 2,4,5-TP at 0.05 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to 2,4,5-TP.

52. Xylenes. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that xylene is a health concern at certain levels of exposure. This organic chemical is used in the manufacture of gasoline for airplanes and as a solvent for pesticides, and as a cleaner and degreaser of metals. It usually gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and nervous system of laboratory animals such as rats and dogs exposed to high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. EPA has set the drinking water standard for xylene at 10 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to xylene.

53. Antimony. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that antimony is a health concern at certain levels of exposure. This inorganic chemical occurs naturally in soils, groundwater and surface waters and is often used in the flame retardant industry. It is

also used in ceramics, glass, batteries, fireworks and explosives. It may get into drinking water through natural weathering of rock, industrial production, municipal waste disposal or manufacturing processes. This chemical has been shown to decrease longevity, and altered blood levels of cholesterol and glucose in laboratory animals such as rats exposed to high levels during their lifetimes. EPA has set the drinking water standard for antimony at 0.006 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to antimony.

54. Beryllium. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that beryllium is a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, groundwater and surface waters and is often used in electrical equipment and electrical components. It generally gets into water from runoff from mining operations, discharge from processing plants and improper waste disposal. Beryllium compounds have been associated with damage to the bones and lungs and induction of cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. There is limited evidence to suggest that beryllium may pose a cancer risk via drinking water exposure. Therefore, EPA based the health assessment on noncancer effects with an extra uncertainty factor to account for possible carcinogenicity. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for beryllium at 0.004 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to beryllium.

55. Cyanide. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that cyanide is a health concern at certain levels of exposure. This inorganic chemical is used in electroplating, steel processing, plastics, synthetic fabrics and fertilizer products. It usually gets into water as a result of improper waste disposal. This chemical has been shown to damage the spleen, brain and liver of humans fatally poisoned with cyanide. EPA has set the drinking water standard for cyanide at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to cyanide.

56. Nickel. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nickel poses a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, groundwater and surface waters and is often used in electroplating, stainless steel and alloy products. It generally gets into water from mining and refining

operations. This chemical has been shown to damage the heart and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. EPA has set the drinking water standard at 0.1 parts per million (ppm) for nickel to protect against the risk of these adverse effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to nickel.

57. **Thallium.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that thallium is a health concern at certain high levels of exposure. This inorganic metal is found naturally in soils and is used in electronics, pharmaceuticals, and the manufacture of glass and alloys. This chemical has been shown to damage the kidney, liver, brain and intestines of laboratory animals when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for thallium at 0.002 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to thallium.

58. **Benzoapyrene.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that benzoapyrene is a health concern at certain levels of exposure. Cigarette smoke and charbroiled meats are common source of general exposure. The major source of benzoapyrene in drinking water is the leaching from coal tar lining and sealants in water storage tanks. This chemical has been shown to cause cancer in animals such as rats and mice when the animals are exposed at high levels. EPA has set the drinking water standard for benzoapyrene at 0.0002 parts per million (ppm) to protect against the risk of cancer. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to benzoapyrene.

59. **Dalapon.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dalapon is a health concern at certain levels of exposure. This organic chemical is a widely used herbicide. It may get into drinking water after application to control grasses in crops, drainage ditches and along railroads. This chemical has been shown to cause damage to the kidney and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. EPA has set the drinking water standard for dalapon at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to dalapon.

60. **Dichloromethane.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dichloromethane (methylene chloride) is a health concern at certain levels of exposure. This organic chemical is a widely used solvent. It is used in the manufacture of paint remover, as a metal degreaser and as an aerosol propellant. It

generally gets into drinking water after improper discharge of waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for dichloromethane at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to dichloromethane.

61. **Di(2-ethylhexyl)adipate.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that di(2-ethylhexyl)adipate is a health concern at certain levels of exposure. Di(2-ethylhexyl)adipate is a widely used plasticizer in a variety of products, including synthetic rubber, food packaging materials and cosmetics. It may get into drinking water after improper waste disposal. This chemical has been shown to damage liver and testes in laboratory animals such as rats and mice exposed to high levels. EPA has set the drinking water standard for di(2-ethylhexyl)adipate at 0.4 parts per million (ppm) to protect against the risk of adverse health effects. Drinking water which meets the EPA standards is associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)adipate.

62. **Di(2-ethylhexyl)phthalate.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that di(2-ethylhexyl)phthalate is a health concern at certain levels of exposure. Di(2-ethylhexyl)phthalate is a widely used plasticizer, which is primarily used in the production of polyvinyl chloride (PVC) resins. It may get into drinking water after improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice exposed to high levels over their lifetimes. EPA has set the drinking water standard for di(2-ethylhexyl)phthalate at [ 0.004 0.006 ] parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)phthalate.

63. **Dinoseb.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dinoseb is a health concern at certain levels of exposure. Dinoseb is a widely used pesticide and generally gets into drinking water after application on orchards, vineyards and other crops. This chemical has been shown to damage the thyroid and reproductive organs in laboratory animals such as rats exposed to high levels. EPA has set the drinking water standard for dinoseb at 0.007 parts per million (ppm) to protect against the risk of adverse health effects. Drinking water which meets the EPA standard is

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associated with little to none of this risk and should be considered safe with respect to dinoseb.

64. *Diquat*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that diquat is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to damage the liver, kidney and gastrointestinal tract and causes cataract formation in laboratory animals such as dogs and rats exposed at high levels over their lifetimes. EPA has set the drinking water standard for diquat at 0.02 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to diquat.

65. *Endothall*. The United States Environmental Protection Agency (EPA) has determined that endothall is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into water by runoff into surface water. This chemical has been shown to damage the liver, kidney, gastrointestinal tract and reproductive system of laboratory animals such as rats and mice exposed at high levels over their lifetimes. EPA has set the drinking water standard for endothall at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to endothall.

66. *Endrin*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that endrin is a health concern at certain levels of exposure. This organic chemical is a pesticide no longer registered for use in the United States. However, this chemical is persistent in treated soils and accumulates in sediments and aquatic and terrestrial biota. This chemical has been shown to cause damage to the liver, kidney and heart in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for endrin at 0.002 parts per million (ppm) to protect against the risk of these adverse health effects which have been observed in laboratory animals. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to endrin.

67. *Glyphosate*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that glyphosate is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control grasses and weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to cause damage to the liver and kidneys in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for glyphosate at 0.7 parts per million (ppm) to protect

against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to glyphosate.

68. *Hexachlorobenzene*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that hexachlorobenzene is a health concern at certain levels of exposure. This organic chemical is produced as an impurity in the manufacture of certain solvents and pesticides. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed to high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for hexachlorobenzene at 0.001 parts per million (ppm) to protect against the risk of cancer and other adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to hexachlorobenzene.

69. *Hexachlorocyclopentadiene*. The United States Environmental Protection Agency (EPA) establishes drinking water standards and has determined that hexachlorocyclopentadiene is a health concern at certain levels of exposure. This organic chemical is used as an intermediate in the manufacture of pesticides and flame retardants. It may get into water by discharge from production facilities. This chemical has been shown to damage the kidney and the stomach of laboratory animals when exposed at high levels over their lifetimes. EPA has set the drinking water standard for hexachlorocyclopentadiene at 0.05 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to hexachlorocyclopentadiene.

70. *Oxamyl*. The United States Environmental Protection Agency (EPA) establishes drinking water standards and has determined that oxamyl is a health concern at certain levels of exposure. This organic chemical is used as a pesticide for the control of insects and other pests. It may get into drinking water by runoff into surface water or leaching into groundwater. This chemical has been shown to damage the kidneys of laboratory animals such as rats when exposed at high levels over their lifetimes. EPA has set the drinking water standard for oxamyl at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to oxamyl.

71. *Picloram*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that picloram is a health concern at certain levels of exposure. This organic chemical is used as a pesticide for broadleaf weed control. It may get into drinking water by runoff into surface water or

leaching into groundwater as a result of pesticide application and improper waste disposal. This chemical has been shown to cause damage to the kidneys and liver in laboratory animals such as rats when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for picloram at 0.5 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to picloram.

72. **Simazine.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that simazine is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control annual grasses and broadleaf weeds. It may leach into groundwater or run off into surface water after application. This chemical may cause cancer in laboratory animals such as rats and mice exposed at high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drink water standard for simazine at 0.004 parts per million (ppm) to reduce the risk of cancer or other adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to simazine.

73. **1,2,4-Trichlorobenzene.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 1,2,4-trichlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a dye carrier and as a precursor in herbicide manufacture. It generally gets into drinking water by discharges from industrial activities. This chemical has been shown to cause damage to several organs, including the adrenal glands. EPA has set the drinking water standard for 1,2,4-trichlorobenzene at 0.07 parts per one million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to 1,2,4-trichlorobenzene.

74. **1,1,2-Trichloroethane.** The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined 1,1,2-trichloroethane is a health concern at certain levels of exposure. This organic chemical is an intermediate in the production of 1,1-dichloroethylene. It generally gets into water by industrial discharge of wastes. This chemical has been shown to damage the kidney and liver of laboratory animals such as rats exposed to high levels during their lifetimes. EPA has set the drinking water standard for 1,1,2-trichloroethane at 0.005 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to 1,1,2-trichloroethane.

75. **2,3,7,8-TCDD(Dioxin).** The United States Environmental Protection Agency (EPA) sets drinking

water standards and has determined that dioxin is a health concern at certain levels of exposure. This organic chemical is an impurity in the production of some pesticides. It may get into drinking water by industrial discharge of wastes. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase in the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for dioxin at 0.0000003 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to dioxin.

## APPENDIX N

TABLE I  
INORGANIC COMPOUNDS

Contaminant	BAT(s)
Antimony	2, 7
Asbestos	2, 3, 8
Barium	5, 6, 7, 9
Beryllium	1, 2, 5, 6, 7
Cadmium	2, 5, 6, 7
Chromium	2, 5, 6 <sup>b</sup> , 7
Cyanide	5, 7, 10
Fluoride	1, 7, 9
Mercury	2 <sup>a</sup> , 4, 6 <sup>a</sup> , 7 <sup>a</sup>
Nickel	5, 6, 7
Nitrate	5, 7, 9
Nitrite	5, 7
Selenium	1, 2 <sup>c</sup> , 6, 7, [8 9]
Thallium	1, 5

### Key to Best Available Technologies/Treatment Techniques

1. Activated Alumina
2. Coagulation/Filtration (except for waterworks serving less than 500 service connections)
3. Direct or Diatomite Filtration
4. Granular Activated Carbon
5. Ion Exchange
6. Lime Softening (except for waterworks serving less than 500 service connections)
7. Reverse Osmosis
8. Corrosion Control
9. Electrodialysis/Electrodialysis Reversing
- [ 10. Chlorine (except for water having cyanide (as free cyanide) exceeding 0.2 mg). ]

### NOTES ON BAT DESIGNATIONS

- a. BAT only if influent mercury concentrations are less than [ or equal to ] 10 µg/l
- b. BAT for Chromium III only
- c. BAT for Selenium IV only

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TABLE II  
ORGANIC CHEMICALS

Contaminant	BAT(s)
Acrylamide	3
Alachlor	1
Aldicarb	1
Aldicarb sulfoxide	1
Aldicarb sulfone	1
Atrazine	1
Benzene	1, 2
Carbofuran	1
Carbon tetrachloride	1, 2
Chlordane	1
2,4-D	1
Dibromochloropropane (DBCP)	1, 2
o-Dichlorobenzene	1, 2
p-Dichlorobenzene	1, 2
1,2-Dichloroethane	1, 2
1,1-Dichloroethylene	1, 2
cis-1,2-Dichloroethylene	1, 2
trans-1,2-Dichloroethylene	1, 2
1,2-Dichloropropane	1, 2
Epichlorohydrin	3
Ethylene dibromide (EDB)	1, 2
Ethylbenzene	1, 2
Heptachlor	1
Heptachlor epoxide	1
Lindane	1
Methoxychlor	1
Monochlorobenzene	1, 2
PCBs	1
Pentachlorophenol	1
Styrene	1, 2
2,4,5-TP (Silvex)	1
Tetrachloroethylene	1, 2
1,1,1-Trichloroethane	1, 2
Trichloroethylene	1, 2
Toluene	1, 2
Toxaphene	1
Vinyl chloride	2
Xylenes (total)	1, 2
Benzoapyrene	1
Dalapon	1
Dichloromethane	2
Di(2-ethylhexyl)adipate	1, 2
Di(2-ethylhexyl)phthalate	1
Dinoseb	1
Diquat	1
Endothall	1
Endrin	1
Glyphosate	4
Hexachlorobenzene	[ 4 1 ]
[ Hexachloropentadiene	1, 2 ]
Oxamyl (Vydate)	1
Picloram	1
Simazine	1
1,2,4-Trichlorobenzene	1, 2
1,1,2-Trichloroethane	1, 2
2,3,7,8-TCDD (Dioxin)	1

## Key to Best Available Technologies/Treatment Techniques

1. Granular Activated Carbon
2. Packed Tower Aeration
3. Polymer Addition Practices
4. Oxidation (chlorination, with the exception of water having cyanide [ (CN) (as free cyanide) ] exceeding 0.2 mg/l, or ozonation)

## DOCUMENTS INCORPORATED BY REFERENCE

### 12 VAC 5-590-10.

"Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure," National Bureau of Standards Handbook 69.

### 12 VAC 5-590-440.

1. Methods for the Determination of Metals in Environmental Samples, June 1991, United States Environmental Protection Agency.
2. Methods for the Determination of Metals in Environmental Samples -- Supplement I, May 1994, United States Environmental Protection Agency.
3. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993, United States Environmental Protection Agency.
4. Methods for the Determination of Organic Compounds in Drinking Water, July 1991, United States Environmental Protection Agency.
5. Methods for the Determination of Organic Compounds in Drinking Water -- Supplement I, July 1990, United States Environmental Protection Agency.
6. Methods for the Determination of Organic Compounds in Drinking Water -- Supplement II, August 1992, United States Environmental Protection Agency.
7. Technical Notes on Drinking Water Methods, October 1994, United States Environmental Protection Agency.

VA.R. Doc. No. R96-35; Filed September 27, 1995, 10:47 a.m.

DEPARTMENT OF MEDICAL ASSISTANCE  
SERVICES

**REGISTRAR'S NOTICE:** Due to the length, the full text of the following regulations is not being published; however, a summary is being published in lieu of full text. The full text of the regulations is available for public inspection at the Department of Medical Assistance Services, 600 East Broad Street, Suite 1300, Richmond, Virginia 23219 or at the Office of the Registrar of Regulations, Virginia Code Commission, General Assembly Building, 910 Capitol Street, 2nd Floor, Richmond, Virginia 23219.

Title of Regulation: State Plan for Medical Assistance Relating to 1995 Omnibus Technical Amendments.

VR 460-01-19. [ 12 VAC 30-10-140 and 12 VAC 30-10-150 ] Amount, Duration, and Scope of Services (§ 3.1).

VR 460-01-29. [ 12 VAC 30-10-310 and 12 VAC 30-10-320 ] Coordination of Medicaid with Medicare and Other Insurance (§ 3.2).

VR 460-01-31.1. [ 12 VAC 30-10-350 ] Families Receiving Extended Medicaid Benefits (§ 3.5).

VR 460-01-57. [ 12 VAC 30-10-580 ] Payment for Services (§4.19).

VR 460-01-72. [ 12 VAC 30-10-630 ] Standards for Payments for Nursing Facility and Intermediate Care Facility for the Mentally Retarded Services (§ 4.24) (REPEALED).

VR 460-01-79.3. [ 12 VAC 30-10-740 ] Program for Nurse Aide Training and Nurse Aide Registry (§ 4.34) (REPEALED).

VR 460-01-79.21. [ 12 VAC 30-10-800 ] Survey and Certification Process (§ 4.40).

VR 460-01-79.24. [ 12 VAC 30-10-810 ] Resident Assessment for Nursing Facilities (§ 4.41).

VR 460-01-88. [ 12 VAC 30-10-980 ] Maintenance of AFDC Files (§ 7.3) (REPEALED).

VR 460-01-89. [ 12 VAC 30-10-990 ] State Governor's Review (§ 7.4).

VR 460-02-1.2100:1. [ 12 VAC 30-30-10 ] Groups Covered and Agencies Responsible for Eligibility Determinations (Attachment 2.2-A).

VR 460-02-2.6100:1. [ 12 VAC 30-40-90, 12 VAC 30-40-140, 12 VAC 30-40-170, and 12 VAC 30-40-190 ] Eligibility Conditions and Requirements (Attachment 2.6-A).

VR 460-03-2.6107. [ 12 VAC 30-40-260 ] Income Levels for 1902(F) States - Categorically Needy Who are Covered Under Requirements More Restrictive Than SSI (Supplement 7 of Attachment 2.6-A).

VR 460-03-2.6108. [ 12 VAC 30-40-270 ] Resource Standards for 1902(F) States - Categorically Needy (Supplement 8 of Attachment 2.6-A).

VR 460-03-2.6111. [ 12 VAC 30-40-330 ] Cost Effectiveness Methodology for COBRA Continuation Beneficiaries (Supplement 11 of Attachment 2.6-A).

VR 460-02-3.1100. [ 12 VAC 30-50-10 ] Amount, Duration, and Scope of Medical and Remedial Care and Services Provided to the Categorically Needy (Attachment 3.1-A).

VR 460-02-3.1200. [ 12 VAC 30-50-20 ] Amount, Duration and Scope of Services Provided Medically Needy Groups: All (Attachment 3.1-B).

VR 460-02-4.3000:1. [ 12 VAC 30-20-215 ] Sanctions for Psychiatric Hospitals (Attachment 4.30).

VR 460-02-4.40100. [ 12 VAC 30-20-272 ] Survey and Certification Education Program (Attachment 4.40-A).

VR 460-02-4.40200. [ 23 VAC 30-20-274 ] Process for the Investigation of Allegations of Resident Neglect and Abuse and Misappropriation of Resident Property (Attachment 4.40-B).

VR 460-02-4.40300. [ 12 VAC 30-20-275 ] Procedures for Scheduling and Conduct of Standard Surveys (Attachment 4.40-C).

VR 460-02-4.40400. [ 12 VAC 30-20-277 ] Programs to Measure and Reduce Inconsistency (Attachment 4.40-D).

VR 460-02-4.40500. [ 12 VAC 30-20-278 ] Process for Investigations of Complaints and Monitoring (Attachment 4.40-E).

Statutory Authority: § 32.1.325 of the Code of Virginia.

Effective Date: November 15, 1995.

Agency Contact: Copies of the regulation may be obtained from Victoria P. Simmons or Roberta J. Jonas, Regulatory Coordinators, Department of Medical Assistance Services, 600 East Broad Street, Suite 1300, Richmond, VA 23219, telephone (804) 371-8850.

Summary:

HCFA has issued 12 Program Memoranda (PM 91-4, 91-8, 92-3, 92-4, 92-7, 93-5, 94-2, 94-4, 94-5, 94-7, 94-9, Medicaid Letter 3/20/92 which conveyed revised preprinted pages for or instructions to withdraw pages from the State Plan for Medical Assistance. HCFA revised these pages to conform with changes to the Social Security Act contained in the Omnibus Budget Reconciliation Acts of 1987, 1989, 1990, 1993 (OBRA); Medicare Catastrophic Coverage Act of 1988; Family Support Act; and the Technical and Miscellaneous Revenue Act of 1988. The inclusion or removal of these pages does not alter any policy currently reflected in the State Plan, nor does it affect the DMAS budget.

VA.R. Doc. No. R96-14; Filed September 13, 1995, 8:53 a.m.



## COMMONWEALTH of VIRGINIA

JOAN W. SMITH  
REGISTRAR OF REGULATIONS

VIRGINIA CODE COMMISSION  
General Assembly Building

510 CAPITOL STREET  
RICHMOND, VIRGINIA 23219  
(804) 786-3591

September 14, 1995

Victoria P. Simmons  
Regulatory Coordinator  
Department of Medical Assistance Services  
900 E. Main Street  
Richmond, Virginia 23219

RE: Final Exempt Regulations Concerning 1995 Omnibus Technical  
Amendment

This will acknowledge receipt of the above-referenced regulations from the  
Department of Medical Assistance Services.

As required by § 9-6.14:4.1 C.4(c) of the Code of Virginia, I have determined that  
these regulations are exempt from the operation of Article 2 of the Administrative  
Process Act, since they do not differ materially from those required by federal law.

Sincerely,

A handwritten signature in cursive script that reads "Joan W. Smith/jc".

Joan W. Smith  
Registrar of Regulations

\*\*\*\*\*

**REGISTRAR'S NOTICE:** The following regulatory action is exempt from the Administrative Process Act in accordance with § 9-6.14:4.1 C 2 of the Code of Virginia, which excludes regulations that establish or prescribe agency organization, internal practice or procedures, including delegations of authority. The Department of Medical Assistance Services will receive, consider and respond to petitions by any interested person at any time with respect to reconsideration or revision.

**Title of Regulation:** VR 460-02-1.2100. Organization and Function of State Agency (REPEALED).

VR 460-02-1.2200. Single State Agency Organizational Chart (REPEALED).

VR 460-02-1.2300. Single State Agency Professional Medical and Supporting Staff (REPEALED).

VR 460-02-1.2400. State Department of Social Services Responsibilities (REPEALED).

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

**Effective Date:** November 15, 1995.

**Agency Contact:** Victoria P. Simmons or Roberta J. Jonas, Regulatory Coordinators, Department of Medical Assistance Services, 600 East Broad Street, Suite 1300, Richmond, VA 23219, telephone (804) 371-8850.

**Summary:**

42 CFR § 431.11(c) requires the State Plan for Medical Assistance to include a description of the organization and functions of the Medicaid agency and an organization chart. In addition, because the department supervises the performance of its eligibility function by the Department of Social Services' local agencies, the plan must include a description of the designated staff and their functions in carrying out this responsibility.

Previously, DMAS had conformed its state regulations to the structure and format of the state plan to reduce administrative work. By having the regulations identical to the state plan, staff was reduced significantly. However, with the development of the administrative code and the Governor's goal to reduce the number of regulations, the agency has reevaluated its processes. DMAS identified the regulations contained in this package as unnecessary and inappropriate as state regulations. The Office of the Attorney General has issued an opinion that these sections are not appropriate as regulations and should not be promulgated. Therefore, DMAS is contributing to the Governor's efforts to reduce the size of government by repealing these regulations.

These sections will continue to be included in the state plan according to federal mandate. As they are updated, they will also be filed with the Registrar under the requirements of the Virginia Register Act.

VA.R. Doc. No. R96-26; Filed September 19, 1995, 11:40 a.m.

## DEPARTMENT OF MINES, MINERALS AND ENERGY

**REGISTRAR'S NOTICE:** The following regulatory action is exempt from the Administrative Process Act in accordance with § 9-6.14:4.1 C 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 Mines, Minerals and Energy will receive, consider and respond to petitions by any interested person at any time with respect to reconsideration or revision.

**Title of Regulation:** VR 480-03-19. Virginia Coal Surface Mining Reclamation Regulations.

**Statutory Authority:** §§ 45.1-161.3 and 45.1-230 of the Code of Virginia.

**Effective Date:** November 15, 1995.

**Agency Contact:** Danny R. Brown, Division Director, Department of Mines, Minerals and Energy, Division of Mined Land Reclamation, P.O. Drawer 900, Big Stone Gap, VA 24219, telephone (540) 523-8152.

**Summary:**

The Commonwealth of Virginia has primacy in oversight of coal surface mining reclamation operations in the state due to the existence of both a state law (the Virginia Surface Mining Control and Reclamation Act of 1979, Chapter 19 of Title 45.1 of the Code of Virginia) and accompanying regulations (the Virginia Coal Surface Mining Reclamation Regulation, VR 480-03-19) that meet the requirements for a state program as set forth in the federal Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 et seq.) and its accompanying federal regulations (30 CFR § 700.1 et seq.).

There is a federal requirement that the state regulations be consistent with the federal regulations. However, there have also been several court decisions in which the court determined that the intention of the General Assembly when they drafted the Virginia Surface Mining Control and Reclamation Act of 1979 was that the state regulation not be more stringent than the federal regulations.

In 1989, the federal Office of Surface Mining (OSM) found that the Virginia Coal Surface Mining Reclamation Program was not as effective as the federal program, as required under federal law and regulation. To correct this, DMME promulgated some regulatory changes which were submitted to OSM and published as final regulations in the October 21, 1991, edition of The Virginia Register of Regulations. After the publication, OSM rejected some of the changes the Department of Mines, Minerals and Energy (DMME) proposed, though the changes had been accepted via the state's promulgation process. This resulted in the state's regulation not being substantively equivalent to the federal regulations.

To remedy this situation, DMME submitted a second set of changes with OSM so that the state regulation would

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be as effective as, but not more stringent than (not materially different from), the federal requirements. This second set of changes has been accepted by OSM, and now DMME needs to incorporate them into the state's approved program. Thus the submission of these revisions known as "the husbandry amendments."

## § 480-03-19.816.49. Impoundments.

(a) General requirements. The requirements of this Paragraph subsection apply to both temporary and permanent impoundments.

(1) An impoundment meeting the size or other criteria of 30 CFR 77.216(a) shall comply with the requirements of 30 CFR 77.216 and this section.

(2) Design certification. The design of impoundments shall be certified by a qualified registered professional engineer as designed to meet the requirements of this part using current, prudent engineering practices, and any other criteria established by the division. The qualified registered professional engineer shall be experienced in the design and construction of impoundments.

(3) Stability.

(i) An impoundment meeting the size or other criteria of 30 CFR 77.216(a) or located where failure would be expected to cause loss of life or serious property damage shall have a minimum static safety factor of 1.5 for a normal pool with steady seepage saturation conditions, and a seismic safety factor of at least 1.2.

(ii) *Impoundments not meeting the size or other criteria of 30 CFR 77.216(a), except for a coal mine waste impounding structure, and located where failure would not be expected to cause loss of life or serious property damage shall have a minimum static safety factor of 1.3 for a normal pool with steady state seepage saturation conditions. In lieu of engineering tests to establish compliance with the minimum static safety factor of 1.3, earth embankments whose top widths are no less than 10 feet and whose embankment slopes are 2h:1v or flatter may be used provided that the permittee documents that a minimum static safety factor of 1.3 can be met using the graphical solution methods outlined in the "Bureau of Mines Report of Investigations/1981, RI 8564, Factor of Safety Charts for Estimating the Stability of Saturated and Unsaturated Tailings Pond Embankments, United States Department of Interior."*

(4) Freeboard. Impoundments shall have adequate freeboard to resist overtopping by waves and by sudden increases in storage volume. The minimum freeboard shall be 4 one foot.

(5) Foundation.

(i) Foundations and abutments for an impounding structure shall be stable during all phases of construction and operation and shall be designed based on adequate and accurate information on the foundation conditions. For an impoundment meeting

the size or other criteria of 30 CFR 77.216(a), foundation investigations, as well as any necessary laboratory testing of foundation material shall be performed to determine the design requirements for foundation stability.

(ii) All vegetative and organic materials shall be removed and foundations excavated and prepared to resist failure. Cutoff trenches shall be installed if necessary to ensure stability and minimize seepage. The pool area shall be cleared of all brush and trees unless the requirement is waived by the division.

(iii) The most impervious material available shall be used in the cutoff trench and center portion of the dam. If sandy or gravelly material is encountered, it shall be placed in the outer shell, preferably in the downstream portion of the dam.

(6) Slope protection. Slope protection shall be provided to protect against surface erosion at the site and protect against sudden drawdown.

(7) Vegetation. Faces of embankments and surrounding areas shall be vegetated, except that faces where water is impounded may be ripped or otherwise stabilized in accordance with accepted design practices.

(8) Spillways. An impoundment shall include either a combination of principal and emergency spillways or a single spillway configured as specified in Paragraph subdivision (a) (8) (i) of this section, designed and constructed to safely pass the applicable design precipitation event specified in Paragraph subdivision (a) (8) (ii) of this section, except as set forth in Paragraph subdivision (c) (2) of this section.

(i) (A) The division may approve a single open-channel spillway that is:

(1) Of nonerodible construction and designed to carry sustained flows; or

(2) Earth- or grass-lined and designed to carry short-term, infrequent flows at nonerosive velocities where sustained flows are not expected.

(B) Temporary ponds that do not meet the size or other criteria of 30 CFR 77.216(a) and located where failure would not be expected to cause loss of life or serious property damage, may use a single spillway of the pipe and riser design if the riser is no less than 15 inches in diameter, the barrel is no less than 12 inches in diameter, and a properly designed anti-vortex device and trash rack are securely installed on top of the riser.

(ii) Except as specified in Paragraph subdivision (c) (2) of this section, the required design precipitation event for an impoundment meeting the spillway requirements of Paragraph subdivision (a) (8) of this section is:

(A) For an impoundment meeting the size or other criteria of 30 CFR 77.216(a), a 100-year 6

six-hour event, or greater event as specified by the division.

(B) For an impoundment not meeting the size or other criteria of 30 CFR 77.216(a), a 25-year 6 six-hour event, or greater event as specified by the division.

(9) Inspections. A qualified registered professional engineer or other qualified professional specialist under the direction of a professional engineer, shall inspect each impoundment as provided in Paragraph *subdivision* (a) (9) (i) of this section. The professional engineer or specialist shall be experienced in the construction of impoundments.

(i) Inspections shall be made regularly during construction, upon completion of construction, and at least yearly until removal of the structure or release of the performance bond.

(ii) The qualified registered professional engineer shall, within 2 two weeks after each inspection required in Paragraph *subdivision* (a) (9) (i) of this section, provide to the division a certified report that the impoundment has been constructed and/or maintained as designed and in accordance with the approved plan and this chapter. Construction certified in previous reports need not be recertified after each annual inspection. The report shall include discussion of any appearance of instability, structural weakness or other hazardous condition, depth and elevation of any impounded waters, existing storage capacity, any existing or required monitoring procedures and instrumentation, and any other aspects of the structure affecting stability.

(iii) A copy of the report shall be retained at or near the mine site.

(10) Examinations. Impoundments subject to 30 CFR 77.216 must be examined in accordance with 30 CFR 77.216-3. Other impoundments shall be examined at least quarterly by a qualified person designated by the permittee for appearance of structural weakness and other hazardous conditions. A written record of each examination shall be retained at or near the mine site.

(11) Emergency procedures. If any examination or inspection discloses that a potential hazard exists, the permittee shall promptly inform the division of the finding and of the emergency procedures formulated for public protection and remedial action. If adequate procedures cannot be formulated or implemented, the division shall be notified immediately. Notification shall be by the fastest available means and followed in writing. The division shall then notify the appropriate agencies that other emergency procedures are required to protect the public.

(b) Permanent impoundments. A permanent impoundment of water may be created, if authorized by the division in the approved permit based upon the following demonstration:

(1) The size and configuration of such impoundment will be adequate for its intended purposes.

(2) The quality of impounded water will be suitable on a permanent basis for its intended use and, after reclamation, will meet applicable state and federal water quality standards, and discharges from the impoundment will meet applicable effluent limitations and will not degrade the quality of receiving water below applicable state and federal water quality standards.

(3) The water level will be sufficiently stable and be capable of supporting the intended use.

(4) Final grading will provide for adequate safety and access for proposed water users.

(5) The impoundment will not result in the diminution of the quality and quantity of water utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses.

(6) The impoundment will be suitable for the approved postmining land use.

(c) Temporary impoundments.

(1) The division may authorize the construction of temporary impoundments as part of a surface coal mining operation.

(2) In lieu of meeting the requirements in Paragraph *subdivision* (a) (8) (i) of this section, the division may approve an impoundment that relies primarily on storage to control the runoff from the design precipitation event when it is demonstrated by the operator and certified by a qualified registered professional engineer or qualified registered professional land surveyor in accordance with § 480-03-19.780.25(a) that the impoundment will safely control the design precipitation event, the water from which shall be safely removed in accordance with current, prudent, engineering practices. Such an impoundment shall be located where failure would not be expected to cause loss of life or serious property damage, except where:

(A) In the case of an impoundment meeting the size or other criteria of 30 CFR 77.216(a), it is designed to control the precipitation of the probable maximum precipitation of a 6 six-hour event, or greater event as specified by the division; or

(B) In the case of an impoundment not meeting the size or other criteria of 30 CFR 77.216(a), it is designed to control the precipitation of a 100-year 6 six-hour event, or greater event as specified by the division.

§ 480-03-19.816.116. Revegetation: standards for success.

(a) Success of revegetation shall be judged on the effectiveness of the vegetation for the approved postmining land use, the extent of cover compared to the cover occurring in natural vegetation of the area, and the general requirements of § 480-03-19.816.111.

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(1) Statistically valid sampling techniques shall be used for measuring success.

(2) Ground cover, production, or stocking shall be considered equal to the approved success standard when they are not less than 90% of the success standard. The sampling techniques for measuring success shall use a 90% statistical confidence interval (i.e., one-sided test with a 0.10 alpha error). Sampling techniques for measuring woody plant stocking, ground cover, and production shall be in accordance with techniques approved by the division.

(b) Standards for success shall be applied in accordance with the approved postmining land use and, at a minimum, the following conditions:

(1) For areas developed for use as grazing land or pasture land, the ground cover and production of living plants on the revegetated area shall be at least equal to that of a reference area or if approved by the division, a vegetative ground cover of 90% for areas planted only in herbaceous species and productivity at least equal to the productivity of the premining soils may be achieved. Premining productivity shall be based upon data of the U.S. Soil Conservation Service and measured in such units as weight of material produced per acre or animal units supported.

(2) For areas developed for use as cropland, crop production on the revegetated area shall be at least equal to that of a reference area or if approved by the division, crop yields shall be at least equal to the yields for reference crops from unmined lands. Reference crop yields shall be determined from the current yield records of representative local farms in the surrounding area or from the average county yields recognized by the U.S. Department of Agriculture.

(3) For areas to be developed for fish and wildlife habitat, recreation, shelter belts, or forest products, success of vegetation shall be determined on the basis of tree and shrub stocking and vegetative ground cover. Such parameters are described as follows:

(i) Minimum stocking and planting arrangements shall be specified by the division on the basis of local and regional conditions and after consultation with and approval by the state agencies responsible for the administration of forestry and wildlife programs. Consultation and approval may occur on either a program wide or a permit specific basis.

(ii) Trees and shrubs that will be used in determining the success of stocking and the adequacy of the plant arrangement shall have utility for the approved postmining land use. Trees and shrubs counted in determining such success shall be healthy and have been in place for not less than two growing seasons. At the time of bond release, at least 80% of the trees and shrubs used to determine such success shall have been in place for at least three years. Root crown or sprouts over 4 one foot in height shall count as one toward meeting the stocking requirements.

Where multiple stems occur, only the tallest stem will be counted.

(iii) Vegetative ground cover shall not be less than that required to control erosion and achieve the approved postmining land use.

(iv) Where commercial forest land is the approved postmining land use:

(A) The area shall have a minimum stocking of 400 trees per acre;

(B) All countable trees shall be commercial species and shall be well distributed over each acre stocked.

(C) Additionally, the area shall have an average of at least 40 wildlife food-producing shrubs per acre. The shrubs shall be suitably located for wildlife enhancement, and may be distributed or clustered.

(v) Where woody plants are used for wildlife management, recreation, shelter belts, or forest uses other than commercial forest land:

(A) The stocking of trees, shrubs, half-shrubs and the ground cover established on the revegetated area shall approximate the stocking and ground cover on the surrounding unmined area and shall utilize local and regional recommendations regarding species composition, spacing and planting arrangement;

(B) Areas planted only in herbaceous species shall sustain a vegetative ground cover of 90%;

(C) Areas planted with a mixture of herbaceous and woody species shall sustain a herbaceous vegetative ground cover of 90% and an average of 400 woody plants per acre. At least 40 of the woody plants for each acre shall be wildlife food-producing shrubs located suitably for wildlife enhancement, which may be distributed or clustered on the area.

(4) For areas to be developed for industrial, commercial, or residential use less than 2 two years after regrading is completed, the vegetative ground cover shall not be less than that required to control erosion.

(5) For areas previously disturbed by mining that were not reclaimed to the requirements of this Subchapter section and that are mined or otherwise redisturbed by surface coal mining operations, as a minimum, the vegetative ground cover shall be not less than the ground cover existing before redisturbance, and shall be adequate to control erosion.

(c) (1) The period of extended responsibility for successful revegetation shall begin after the last year of augmented seeding, fertilizing, irrigation, or other work, excluding husbandry practices that are approved by the division in accordance with Paragraph subdivision (c) (3) of this section.

(2) The period of responsibility shall continue for a period of not less than ~~5~~ five full years. Vegetation parameters identified in Paragraph subsection (b) of this section for grazing land or pasture land and cropland shall equal or exceed the approved success standard during the growing seasons of any two years of the responsibility period, except the first year. Areas approved for the other uses identified in Paragraph subsection (b) of this section shall equal or exceed the applicable success standard during the growing season of the last year of the responsibility period.

(3) The division may approve selective husbandry practices, excluding augmented seeding, fertilization, or irrigation, without extending the period of responsibility for revegetation success and bond liability, if such practices can be expected to continue as part of the postmining land use or if discontinuance of the practices after the liability period expires will not reduce the probability of permanent revegetation success. Approved practices shall be normal ~~conservation~~ husbandry practices within the region for unmined lands having land uses similar to the approved postmining land use of the disturbed area, including such practices as disease, pest, and vermin control; and/or any pruning, reseeding and transplanting specifically necessitated by such actions.

## § 480-03-19.816.151. Primary roads.

Primary roads shall meet the requirements of § 480-03-19.816.150 and the additional requirements of this section.

### (a) Certification and construction.

(1) The construction or reconstruction of primary roads shall be certified in a report to the division by a qualified registered professional engineer. The report shall indicate that the primary road has been constructed or reconstructed as designed and in accordance with the approved plan.

(2) The centerline of a proposed road shall be flagged prior to field inspection.

(3) All road grades shall be subject to a tolerance of plus or minus ~~two percent (-2%+)~~ 2.0% grade.

(4) Grading. The grade of a road shall not exceed 10% unless a steeper grade is justified by site conditions and topography.

(i) The grade shall be controlled to minimize erosion and sedimentation.

(ii) The road surface shall be sloped toward the ditch line at the minimum rate of 1/2 inch per foot of width or crowned at the minimum rate of 1/2 inch per foot of width as measured from the centerline of the road.

(5) Cuts. Cut slopes shall not be steeper than 1v:1.5h in unconsolidated materials, 1v:1h in shale, or 1v:0.25h in sandstone. Steeper slopes may be specifically authorized by the division based on the geotechnical analysis.

(6) Revegetation. All disturbed areas shall be seeded and mulched immediately after construction. If construction occurs during the nonseeding period of November 1 through February 15, the permittee may use alternate methods upon approval by the division for control of erosion. Adequate vegetation to control erosion shall be maintained.

(7) Excess or unsuitable material from excavations shall be disposed of in accordance with § 480-03-19.816.71. Acid and toxic-forming material shall be disposed of in accordance with §§ 480-03-19.816.41, 480-03-19.816.81, and 480-03-19.816.102.

(8) Temporary erosion-control measures shall be implemented during construction to minimize sedimentation and erosion until permanent control measures can be established.

(b) Embankments Safety factor. The following specifications shall be utilized for embankment construction. The division may specifically authorize alternate specifications if the geotechnical analysis demonstrates that a minimum safety factor of 1.3 can be maintained.

(i)-(1) All ~~vegetative organic~~ material and topsoil shall be removed from the embankment foundation and no ~~vegetative organic~~ material or topsoil, or other ~~unsuitable material~~ shall be placed beneath or in any embankment.

(A) (2) Where an embankment is to be placed on side slopes less than ~~thirty-six percent (36%)~~ 36%, the following conditions shall be required:

(4) (i) The embankment shall be constructed in uniform, compacted layers not exceeding 4 feet in thickness.

(2) (ii) The embankment slopes shall not be steeper than 1v:1.5h.

(B) (3) Where an embankment is to be placed on side slopes exceeding ~~thirty-six percent~~, 36% the following additional conditions shall be required:

(4)-(i) A keyway cut shall be constructed at the toe of the fill to ensure stability; the keyway cut shall be at least 10 feet in width and shall be sloped inward.

(2) (ii) The embankment shall be constructed in uniform compacted layers not exceeding 2 two feet in thickness.

(C) (4) Acid-producing materials may be used in the embankments of only those roads constructed or reconstructed on coal mine waste disposal facilities, if it is demonstrated that no additional acid will leave the confines of the facility. In no case shall acid-producing refuse material be used outside the confines of the coal mine waste disposal facility. Restoration of the road shall be in accordance with the requirements of §§ 480-03-19.816.102 through 480-03-19.816.116.

(c) Location.

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(1) To minimize erosion, a primary road shall be located, insofar as practical, on the most stable available surface.

(2) Fords of perennial or intermittent streams by primary roads are prohibited unless they are specifically approved by the division as temporary routes during periods of road construction.

(d) Drainage control. In accordance with the approved plan.

(1) Each primary road shall be constructed or reconstructed, and maintained to have adequate drainage control, using structures such as, but not limited to, bridges, ditches, cross drains, and ditch relief drains. The drainage control system shall be designed to safely pass the peak runoff from a 10-year, 6 six-hour precipitation event, or greater event as specified by the division.

(2) Drainage pipes and culverts shall be installed as designed, and maintained in a free and operating condition and to prevent or control erosion at inlets and outlets.

(i) Sufficient culverts shall be installed to limit erosion in ditch lines. Additional culverts may be required by the division if excessive erosion or sedimentation is anticipated or observed.

(ii) Culverts shall cross the road at not less than a 30° angle downgrade, except if risers are used. Culverts placed in intermittent or perennial streams shall be straight and coincide with normal flow.

(iii) Culverts shall be placed on a minimum 4.0% grade.

(iv) Culverts shall be at least 12 inches in diameter.

(3) Drainage ditches shall be designed to prevent uncontrolled drainage over the road surface and embankment. Trash racks and debris basins shall be installed in the drainage ditches where debris from the drainage area may impair the functions of the drainage and sediment control structures. A ditch shall be provided on both sides of a through-cut and on the inside shoulder of a cut and fill section. Water shall be intercepted before reaching a switch back or large fill and drained safely away. Water from a fill or switchback shall be released below the fill through conduits or in riprapped channels and shall not be discharged onto the fill. Ditches shall have a minimum constructed depth of one foot, measured from the lowest point in the road surface adjacent to the ditch.

(4) Culverts shall be installed and maintained to sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of vehicles using the road.

(5) Natural stream channels shall not be altered or relocated without the prior approval of the division in accordance with the applicable portions of §§ 480-03-19.816.41 through 480-03-19.816.43 and 480-03-19.816.57.

(6) Except as provided in Paragraph *subdivision* (c) (2) of this section, structures for perennial or intermittent stream channel crossings shall be made using bridges, culverts, low-water crossings, or other structures designed, constructed, and maintained using current, prudent engineering practice. The drainage structure itself can be at least equal to or greater than the stream channel capacity immediately upstream and downstream of the crossing. Low-water crossings shall be designed, constructed, and maintained to prevent erosion of the structure or streambed and additional contributions of suspended solids to stream flow.

(7) (i) Sediment control shall be provided as part of the road drainage system unless runoff is diverted to other approved drainage/sediment control structures.

(ii) Sediment control structures along a road shall be designed to provide 0.025 acre-feet of sediment storage capacity for each acre of disturbed area draining to the structure if the structure is the final discharge point for effluent from the permit area. Other capacities may be required by the division.

(e) Surfacing. Primary roads shall be surfaced with rock, crushed stone, gravel, asphalt, or other material approved by the division as being sufficiently durable for the anticipated volume of traffic and the weight and speed of vehicles using the road.

(f) Maintenance. Routine maintenance for primary roads shall include repairs to the road surface, blading, filling potholes and adding replacement gravel or asphalt. Sediment control structures shall be cleaned regularly and when sediment accumulation may impair their functioning. Maintenance shall also include revegetation, brush removal, and minor reconstruction of road segments as necessary.

(g) Coal haulage. Any roads used for transporting coal shall have construction or reconstruction completed prior to the hauling of coal.

## § 480-03-19.816.152. Existing roads.

Where existing roads that are to be used meet the performance standards of this section §§ 480-03-19.816.150 and 480-03-19.816.151 or it can be demonstrated that reconstruction to meet the above requirements *design standards of §§ 480-03-19.816.150 and 480-03-19.816.151* would result in greater environmental harm, the division may waive ~~these sections~~ *the design requirements of those sections*; however, such roads are to be constructed and maintained to control or prevent erosion. Review will place emphasis on stabilization and the water control system.

## § 480-03-19.817.49. Impoundments.

(a) General requirements. The requirements of this Paragraph *subdivision* apply to both temporary and permanent impoundments.

(1) An impoundment meeting the size or other criteria of 30 CFR 77.216(a) shall comply with the requirements of 30 CFR 77.216 and this section.

(2) Design certification. The design of impoundments shall be certified by a qualified registered professional

engineer as designed to meet the requirements of this part using current, prudent engineering practices and any other criteria established by the division. The qualified registered professional engineer shall be experienced in the design and construction of impoundments.

(3) Stability.

(i) An impoundment meeting the size or other criteria of 30 CFR 77.216(a) or located where failure would be expected to cause loss of life or serious property damage shall have a minimum static safety factor of 1.5 for a normal pool with steady seepage saturation conditions, and a seismic safety factor of at least 1.2.

(ii) *Impoundments not meeting the size or other criteria of 30 CFR 77.216(a), except for a coal mine waste impounding structure, and located where failure would not be expected to cause loss of life or serious property damage shall have a minimum static safety factor of 1.3 for a normal pool with steady state seepage saturation conditions. In lieu of engineering tests to establish compliance with the minimum static safety factor of 1.3, earth embankments whose top widths are no less than 10 feet and whose embankment slopes are 2h:1v or flatter may be used provided that the permittee documents that a minimum static safety factor of 1.3 can be met using the graphical solution methods outlined in the "Bureau of Mines Report of Investigations/1981, RI 8564, Factor of Safety Charts for Estimating the Stability of Saturated and Unsaturated Tailings Pond Embankments, United States Department of Interior."*

(4) Freeboard. Impoundments shall have adequate freeboard to resist overtopping by waves and by sudden increases in storage volume. The minimum freeboard shall be 4 one foot.

(5) Foundation.

(i) Foundations and abutments for an impounding structure shall be stable during all phases of construction and operation and shall be designed based on adequate and accurate information on the foundation conditions. For an impoundment meeting the size or other criteria of 30 CFR 77.216(a), foundation investigations, as well as any necessary laboratory testing of foundation material, shall be performed to determine the design requirements for foundation stability.

(ii) All vegetative and organic materials shall be removed and foundations excavated and prepared to resist failure. Cutoff trenches shall be installed if necessary to ensure stability and minimize seepage. The pool area shall be cleared of all brush and trees unless the requirement is waived by the division.

(iii) The most impervious material available shall be used in the cutoff trench and center portion of the dam. If sandy or gravelly material is encountered, it shall be placed in the outer shell, preferably in the downstream portion of the dam.

(6) Slope protection. Slope protection shall be provided to protect against surface erosion at the site and protect against sudden drawdown.

(7) Vegetation. Faces of embankments and surrounding areas shall be vegetated, except that faces where water is impounded may be ripped or otherwise stabilized in accordance with accepted design practices.

(8) Spillways. An impoundment shall include either a combination of principal and emergency spillways or a single spillway configured as specified in Paragraph subdivision (a) (8) (i) of this section, designed and constructed to safely pass the applicable design precipitation event specified in Paragraph subdivision (a) (8) (ii) of this section, except as set forth in Paragraph subdivision (c) (2) of this section.

(i) (A) The division may approve a single open-channel spillway that is:

(1) Of nonerodible construction and designed to carry sustained flows; or

(2) Earth- or grass-lined and designed to carry short-term, infrequent flows at nonerosive velocities where sustained flows are not expected.

(B) Temporary ponds that do not meet the size or other criteria of 30 CFR 77.216(a) and located where failure would not be expected to cause loss of life or serious property damage, may use a single spillway of the pipe and riser design if the riser is no less than 15 inches in diameter, the barrel is no less than 12 inches in diameter, and a properly designed anti-vortex device and trash rack are securely installed on top of the riser.

(ii) Except as specified in Paragraph subdivision (c) (2) of this section, the required design precipitation event for an impoundment meeting the spillway requirements of Paragraph subdivision (a) (8) of this section is:

(A) For an impoundment meeting the size or other criteria of 30 CFR 77.216(a), a 100-year 6 six-hour event, or greater event as specified by the division.

(B) For an impoundment not meeting the size or other criteria of 30 CFR 77.216(a), a 25-year 6 six-hour event, or greater event as specified by the division.

(9) Inspections. A qualified registered professional engineer or other qualified professional specialist under the direction of a professional engineer, shall inspect each impoundment as provided in Paragraph subdivision (a) (9) (i) of this section. The professional engineer or specialist shall be experienced in the construction of impoundments.

(i) Inspections shall be made regularly during construction, upon completion of construction, and at least yearly until removal of the structure or release of the performance bond.

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(ii) The qualified registered professional engineer shall, within 2 two weeks after each inspection required in Paragraph *subdivision* (a) (9) (i) of this section, provide to the division, a certified report that the impoundment has been constructed and/or maintained as designed and in accordance with the approved plan and this chapter. Construction certified in previous reports need not be recertified after each annual inspection. The report shall include discussion of any appearance of instability, structural weakness or other hazardous condition, depth and elevation of any impounded waters, existing storage capacity, any existing or required monitoring procedures and instrumentation, and any other aspects of the structure affecting stability.

(iii) A copy of the report shall be retained at or near the mine site.

(10) Examinations. Impoundments subject to 30 CFR 77.216 must be examined in accordance with 30 CFR 77.216-3. Other impoundments shall be examined at least quarterly by a qualified person designated by the permittee for appearance of structural weakness and other hazardous conditions. A written record of each examination shall be retained at or near the mine site.

(11) Emergency procedures. If any examination or inspection discloses that a potential hazard exists, the permittee shall promptly inform the division of the finding and of the emergency procedures formulated for public protection and remedial action. If adequate procedures cannot be formulated or implemented, the division shall be notified immediately. Notification shall be by the fastest available means and followed in writing. The division shall then notify the appropriate agencies that other emergency procedures are required to protect the public.

(b) Permanent impoundments. A permanent impoundment of water may be created, if authorized by the division in the approved permit based upon the following demonstration:

(1) The size and configuration of such impoundment will be adequate for its intended purposes.

(2) The quality of impounded water will be suitable on a permanent basis for its intended use and, after reclamation, will meet applicable state and federal water quality standards, and discharges from the impoundment will meet applicable effluent limitations and will not degrade the quality of receiving water below applicable state and federal water quality standards.

(3) The water level will be sufficiently stable and be capable of supporting the intended use.

(4) Final grading will provide for adequate safety and access for proposed water users.

(5) The impoundment will not result in the diminution of the quality and quantity of water utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses.

(6) The impoundment will be suitable for the approved postmining land use.

(c) Temporary impoundments.

(1) The division may authorize the construction of temporary impoundments as part of underground mining activities.

(2) In lieu of meeting the requirements in Paragraph *subdivision* (a) (8) (i) of this section, the division may approve an impoundment that relies primarily on storage to control the runoff from the design precipitation event when it is demonstrated by the operator and certified by a qualified registered professional engineer or qualified registered professional land surveyor in accordance with § 480-03-19.784.16(a) that the impoundment will safely control the design precipitation event, the water from which shall be safely removed in accordance with current, prudent, engineering practices. Such an impoundment shall be located where failure would not be expected to cause loss of life or serious property damage, except where:

(i) In the case of an impoundment meeting the size or other criteria of 30 CFR 77.216(a), it is designed to control the precipitation of the probable maximum precipitation of a 6 six-hour event, or greater event as specified by the division; or

(ii) In the case of an impoundment not meeting the size or other criteria of 30 CFR 77.216(a), it is designed to control the precipitation of a 100-year 6 six-hour event, or greater event as specified by the division.

## § 480-03-19.817.116. Revegetation: standards for success.

(a) Success of revegetation shall be judged on the effectiveness of the vegetation for the approved postmining land use, the extent of cover compared to the cover occurring in natural vegetation of the area, and the general requirements of § 480-03-19.817.111.

(1) Statistically valid sampling techniques shall be used for measuring success.

(2) Ground cover, production, or stocking shall be considered equal to the approved success standard when they are not less than 90% of the success standard. The sampling techniques for measuring success shall use a 90% statistical confidence interval (i.e., a one-sided test with a 0.10 alpha error). Sampling techniques for measuring woody plant stocking, ground cover, and production shall be in accordance with techniques approved by the division.

(b) Standards for success shall be applied in accordance with the approved postmining land use and, at a minimum, the following conditions:

(1) For areas developed for use as grazing land or pasture land, the ground cover and production of living plants on the revegetated area shall be at least equal to that of a reference area or if approved by the division, a vegetative ground cover of 90% for areas planted only in herbaceous species and productivity at least equal to the productivity of the premining soils may be achieved. Premining productivity shall be based upon data of the

U.S. Soil Conservation Service and measured in such units as weight of material produced per acre or animal units supported.

(2) For areas developed for use as cropland, crop production on the revegetated area shall be at least equal to that of a reference area or if approved by the division, crop yields shall be at least equal to the yields for reference crops from unmined lands. Reference crop yields shall be determined from the current yield records of representative local farms in the surrounding area or from the average county yields recognized by the U.S. Department of Agriculture.

(3) For areas to be developed for fish and wildlife habitat, recreation, shelter belts, or forest products, success of vegetation, shall be determined on the basis of tree and shrub stocking and vegetative ground cover. Such parameters are described as follows:

(i) Minimum stocking and planting arrangements shall be specified by the division on the basis of local and regional conditions and after consultation with and approval by the state agencies responsible for the administration of forestry and wildlife programs. Consultation and approval may occur on either a program wide or a permit specific basis.

(ii) Trees and shrubs that will be used in determining the success of stocking and the adequacy of the plant arrangement shall have utility for the approved postmining land use. Trees and shrubs counted in determining such success shall be healthy and have been in place for not less than two growing seasons. At the time of bond release, at least 80% of the trees and shrubs used to determine such success shall have been in place for at least three years. Root crown or root sprouts over 4 one foot in height shall count as one toward meeting the stocking requirements. Where multiple stems occur, only the tallest stem will be counted.

(iii) Vegetative ground cover shall not be less than that required to control erosion and achieve the approved postmining land use.

(iv) Where commercial forest land is the approved postmining land use:

(A) The area shall have a minimum stocking of 400 trees per acre;

(B) All countable trees shall be commercial species and shall be well distributed over each acre stocked.

(C) Additionally, the area shall have an average of at least 40 wildlife food-producing shrubs per acre. The shrubs shall be suitably located for wildlife enhancement, and may be distributed or clustered.

(v) Where woody plants are used for wildlife management, recreation, shelter belts, or forest uses other than commercial forest land:

(A) The stocking of trees, shrubs, half-shrubs and the ground cover established on the revegetated area shall approximate the stocking and ground cover on the surrounding unmined area and shall utilize local and regional recommendations regarding species composition, spacing and planting arrangement;

(B) Areas planted only in herbaceous species shall sustain a vegetative ground cover of 90%;

(C) Areas planted with a mixture of herbaceous and woody species shall sustain a herbaceous vegetative ground cover of 90% and an average of 400 woody plants per acre. At least 40 of the woody plants for each acre shall be wildlife food-producing shrubs located suitably for wildlife enhancement, which may be distributed or clustered on the area.

(4) For areas to be developed for industrial, commercial, or residential use less than 2 two years after regrading is completed, the vegetative ground cover shall not be less than that required to control erosion.

(5) For areas previously disturbed by mining that were not reclaimed to the requirements of this subchapter and that are remined or other wise redisturbed by surface coal mining operations, as a minimum, the vegetative ground cover shall be not less than the ground cover existing before redisturbance and shall be adequate to control erosion.

(c) (1) The period of extended responsibility for successful revegetation shall begin after the last year of augmented seeding, fertilizing, irrigation, or other work, excluding husbandry practices that are approved by the division in accordance with Paragraph subdivision (c) (3) of this section.

(2) The period of responsibility shall continue for a period of not less than 5 five full years. Vegetation parameters identified in Paragraph subsection (b) of this section for grazing land or pasture land and cropland shall equal or exceed the approved success standard during the growing seasons of any two years of the responsibility period, except the first year. Areas approved for the other uses identified in Paragraph subsection (b) of this section shall equal or exceed the applicable success standard during the growing season of the last year of the responsibility period.

(3) The division may approve selective husbandry practices, excluding augmented seeding, fertilization, or irrigation, without extending the period of responsibility for revegetation success and bond liability, if such practices can be expected to continue as part of the postmining land use or if discontinuance of the practices after the liability period expires will not reduce the probability of permanent revegetation success. Approved practices shall be normal conservation husbandry practices within the region for unmined lands having land uses similar to the approved postmining land use of the disturbed area, including such practices as disease, pest, and vermin

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control; and any pruning, reseeding and/or transplanting specifically necessitated by such actions.

## § 480-03-19.817.151. Primary roads.

Primary roads shall meet the requirements of § 480-03-19.817.150 and the additional requirements of this section.

### (a) Certification and construction.

(1) The construction or reconstruction of primary roads shall be certified in a report to the division by a qualified registered professional engineer. The report shall indicate that the primary road has been constructed or reconstructed as designed and in accordance with the approved plan.

(2) The centerline of a proposed road shall be flagged prior to field inspection.

(3) All road grades shall be subject to a tolerance of plus or minus two percent ( $-2\%$ +) 2.0% grade.

(4) Grading. The grade of a road shall not exceed 10% unless a steeper grade is justified by site conditions and topography.

(i) The grade shall be controlled to minimize erosion and sedimentation.

(ii) The road surface shall be sloped toward the ditch line at the minimum rate of 1/2 inch per foot of width or crowned at the minimum rate of 1/2 inch per foot of width as measured from the centerline of the road.

(5) Cuts. Cut slopes shall not be steeper than 1v:1.5h in unconsolidated materials, 1v:1h in shale, or 1v:0.25h in sandstone. Steeper slopes may be specifically authorized by the division based on the geotechnical analysis.

(6) Revegetation. All disturbed areas shall be seeded and mulched immediately after construction. If construction occurs during the nonseeding period of November 1 through February 15, the permittee may use alternate methods upon approval by the division for control of erosion. Adequate vegetation to control erosion shall be maintained.

(7) Excess or unsuitable material from excavations shall be disposed of in accordance with § 480-03-19.817.71. Acid and toxic-forming material shall be disposed of in accordance with §§ 480-03-19.817.41, 480-03-19.817.81, and 480-03-19.817.102.

(8) Temporary erosion-control measures shall be implemented during construction to minimize sedimentation and erosion until permanent control measures can be established.

(b) Embankments *Safety factor.* The following specifications shall be utilized for embankment construction. The division may specifically authorize alternate specifications if the geotechnical analysis demonstrates that a minimum safety factor of 1.3 can be maintained.

(1) All ~~vegetative organic~~ material and topsoil shall be removed from the embankment foundation and no

~~vegetative organic~~ material or, topsoil, or other unsuitable material shall be placed beneath or in any embankment.

~~(A)~~ (2) Where an embankment is to be placed on side slopes less than ~~thirty-six percent~~ (36%), the following conditions shall be required:

~~(1)~~ (i) The embankment shall be constructed in uniform, compacted layers not exceeding 4 *four* feet in thickness.

~~(2)~~ (ii) The embankment slopes shall not be steeper than 1v:1.5h.

~~(B)~~ (3) Where an embankment is to be placed on side slopes exceeding ~~thirty-six percent~~ 36%, the following additional conditions shall be required:

~~(1)~~ (i) A keyway cut shall be constructed at the toe of the fill to ensure stability; the keyway cut shall be at least 10 feet in width and shall be sloped inward.

~~(2)~~ (ii) The embankment shall be constructed in uniform compacted layers not exceeding 2 *two* feet in thickness.

~~(C)~~ (4) Acid-producing materials may be used in the embankments of only those roads constructed or reconstructed on coal mine waste disposal facilities, if it is demonstrated that no additional acid will leave the confines of the facility. In no case shall acid-producing refuse material be used outside the confines of the coal mine waste disposal facility. Restoration of the road shall be in accordance with the requirements of §§ 480-03-19.817.102 through 480-03-19.817.116.

### (c) Location.

(1) To minimize erosion, a primary road shall be located, insofar as practical, on the most stable available surface.

(2) Fords of perennial or intermittent streams by primary roads are prohibited unless they are specifically approved by the division as temporary routes during periods of road construction.

(d) Drainage control. In accordance with the approved plan.

(1) Each primary road shall be constructed or reconstructed, and maintained to have adequate drainage control, using structures such as, but not limited to, bridges, ditches, cross drains, and ditch relief drains. The drainage control system shall be designed to safely pass the peak runoff from a 10-year, 6 *six*-hour precipitation event, or greater event as specified by the division.

(2) Drainage pipes and culverts shall be installed as designed, and maintained in a free and operating condition and to prevent or control erosion at inlets and outlets.

(i) Sufficient culverts shall be installed to limit erosion in ditch lines. Additional culverts may be required by

the division if excessive erosion or sedimentation is anticipated or observed.

(ii) Culverts shall cross the road at not less than a 30° angle downgrade, except if risers are used. Culverts placed in intermittent or perennial streams shall be straight and coincide with normal flow.

(iii) Culverts shall be placed on a minimum 4.0% grade.

(iv) Culverts shall be at least 12 inches in diameter.

(3) Drainage ditches shall be designed to prevent uncontrolled drainage over the road surface and embankment. Trash racks and debris basins shall be installed in the drainage ditches where debris from the drainage area may impair the functions of the drainage and sediment control structures. A ditch shall be provided on both sides of a through-cut and on the inside shoulder of a cut and fill section. Water shall be intercepted before reaching a switch back or large fill and drained safely away. Water from a fill or switchback shall be released below the fill through conduits or in rippapped channels and shall not be discharged onto the fill. Ditches shall have a minimum constructed depth of one foot, measured from the lowest point in the road surface adjacent to the ditch.

(4) Culverts shall be installed and maintained to sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of vehicles using the road.

(5) Natural stream channels shall not be altered or relocated without the prior approval of the division in accordance with the applicable portions of §§ 480-03-19.817.41 through 480-03-19.817.43 and § 480-03-19.817.57.

(6) Except as provided in Paragraph subdivision (c) (2) of this section, structures for perennial or intermittent stream channel crossings shall be made using bridges, culverts, low-water crossings, or other structures designed, constructed, and maintained using current, prudent engineering practice. The drainage structure itself can be at least equal to or greater than the stream channel capacity immediately upstream and downstream of the crossing. Low-water crossings shall be designed, constructed, and maintained to prevent erosion of the structure or streambed and additional contributions of suspended solids to stream flow.

(7) (i) Sediment control shall be provided as part of the road drainage system unless runoff is diverted to other approved drainage/sediment control structures.

(ii) Sediment control structures along a road shall be designed to provide 0.025 acre-feet of sediment storage capacity for each acre of disturbed area draining to the structure if the structure is the final discharge point for effluent from the permit area. Other capacities may be required by the division.

(e) Surfacing. Primary roads shall be surfaced with rock, crushed stone, gravel, asphalt, or other material approved by the division as being sufficiently durable for the anticipated

volume of traffic and the weight and speed of vehicles using the road.

(f) Maintenance. Routine maintenance for primary roads shall include repairs to the road surface, blading, filling potholes and adding replacement gravel or asphalt. Sediment control structures shall be cleaned regularly and when sediment accumulation may impair their functioning. Maintenance shall also include revegetation, brush removal, and minor reconstruction of road segments as necessary.

(g) Coal haulage. Any roads used for transporting coal shall have construction or reconstruction completed prior to the hauling of coal.

## § 480-03-19.817.152. Existing roads.

Where existing roads that are to be used meet the performance standards of ~~this section §§ 480-03-19.817.150 and 480-03-19.817.151~~ or it can be demonstrated that reconstruction to meet the above requirements ~~design standards of §§ 480-03-19.817.150 and 480-03-19.817.151~~ would result in greater environmental harm, the division may waive ~~these Sections the design requirements of those sections~~; however, such roads are to be constructed and maintained to control or prevent erosion. Review will place emphasis on stabilization and the water control system.

VA.R. Doc. No. R96-25; Filed September 19, 1995, 9:55 a.m.



COMMONWEALTH of VIRGINIA

VIRGINIA CODE COMMISSION

General Assembly Building

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RICHMOND, VIRGINIA 23219  
(804) 786-3591

September 26, 1995

O. Gene Dishner  
Director  
Department of Mines, Minerals and Energy  
P.O. Drawer 900  
Big Stone Gap, Virginia 24219

RE: Federal Exemption on regulation: VR 480-03-19. Virginia Coal Surface  
Mining Reclamation Regulations

This will acknowledge receipt of the above-referenced regulations from the  
Department of Mines, Minerals and Energy.

As required by § 9-6.14:4.1 C.4(c) of the Code of Virginia, I have determined that  
these regulations are exempt from the operation of Article 2 of the Administrative  
Process Act, Since they do not differ materially from those required by federal law.

Sincerely,

A handwritten signature in cursive script that reads "Joan W. Smith".

Joan W. Smith  
Registrar of Regulations

JWS/tmg

**DEPARTMENT OF TRANSPORTATION  
(COMMONWEALTH TRANSPORTATION BOARD)**

Title of Regulation: [ ~~VR 385-04-05, 24 VAC 30-60-10 et seq.~~ ] Hazardous Materials Transportation Rules and Regulations at Bridge-Tunnel Facilities (REPEALED).

VA.R. Doc. No. R96-30; Filed September 27, 1995, 9:21 a.m.

Title of Regulation: [ ~~VR 385-04-05:1, 24 VAC 3-61-10 et seq.~~ ] Hazardous Materials Transportation Rules and Regulations at Bridge-Tunnel Facilities.

Statutory Authority: §§ 33.1-12(3) and 33.1-49 of the Code of Virginia.

Summary of Public Comment and Agency 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.

Agency Contact: Copies of the regulation may be obtained from Perry Cogburn, Department of Transportation, 1221 East Broad Street, Richmond, VA 23219, telephone (804) 786-6824.

Summary:

The regulation concerning the transportation of hazardous materials through the Commonwealth of Virginia's six tunnels makes some major changes in the amount and types of commodities that are allowed passage. The current regulation, "Hazardous Materials Transportation Rules and Regulations at Bridge-Tunnel Facilities," has been in place since 1988 and is being repealed. Although there have been several minor revisions to the regulation, no attempts to keep the regulation current to the changes in 49 CFR 172.101 have been made.

Additionally, the current regulations have proven difficult for the regulated community as well as the regulators to understand. This regulation will be more universally understandable as the new regulation will be based on the hazard class. Furthermore, current restrictions on hazardous materials flow through the two mountain tunnels in Southwest Virginia are removed in this regulation.

24 VAC 30-61-10 et seq. Hazardous Materials Transportation Rules and Regulations at Bridge-Tunnel Facilities.

[ CHAPTER 61.  
RULES AND REGULATIONS GOVERNING THE  
TRANSPORTATION OF HAZARDOUS MATERIALS  
THROUGH BRIDGE-TUNNEL FACILITIES. ]

[ §-1. 24 VAC 30-61-10. ] Applicability and purpose.

This regulation applies to all [ state owned ] bridge-tunnel facilities in the Commonwealth of Virginia, and establishes the rules by which all interstate, intrastate, and public and private transporters of hazardous materials are governed while traveling through these facilities.

[ §-2. 24 VAC 30-61-20. ] List of [ state owned ] bridge-tunnel facilities in the Commonwealth.

The following table lists the [ seven six state owned ] bridge-tunnel facilities in the Commonwealth. The Virginia Department of Transportation owns and operates [ the first all ] six facilities listed. [ The Chesapeake Bay Bridge-Tunnel is a facility owned and operated by the Chesapeake Bay Bridge-Tunnel District, a political subdivision of the Commonwealth. ]

Name of Facility	Telephone Number	Route
Big Walker Mountain Tunnel	703-228-5571	Interstate 77
East River Mountain Tunnel	703-928-1994	Interstate 77
Elizabeth River Tunnel-Downtown	804-494-2424	Interstate 264
Elizabeth River Tunnel-Midtown	804-683-8123	Route 58
Hampton Roads Bridge-Tunnel	804-727-4832	Interstate 64
Monitor-Merrimac Memorial Bridge-Tunnel	804-247-2123	Interstate 664
[ Chesapeake Bay Bridge-Tunnel	804-331-2960	Route 13 ]

For purposes of this regulation, the facilities listed above are classified into two groups: rural and essentially distanced from bodies of water, and urban and essentially proximate to bodies of water.

[ §-3. 24 VAC 30-61-30. ] Restrictions on hazardous material transportation across rural and distanced-from-water facilities.

The two rural and distanced-from-water tunnel facilities are: the Big Walker Mountain Tunnel and the East River Mountain Tunnel. For these two tunnels, and these two only, no restrictions apply on the transport of hazardous materials, so long as transporters and shippers are in compliance with 49 CFR Parts 100 through 180, and any present and future state regulations which may become in force to implement the federal regulations. In addition, the Commonwealth Transportation Commissioner may, at any time, impose emergency or temporary restrictions on the transport of hazardous materials through these facilities, so long as sufficient advanced signage is positioned to allow for a reasonable detour.

Questions on this section of the regulation should be directed to the VDOT Emergency Operations Center at the following telephone number: (804) 371-0891. Copies of the regulation will be provided free of charge. For copies, please write to:

# Final Regulations

Virginia Department of Transportation  
 ATTN: Emergency Operations Center  
 1221 East Broad Street  
 Richmond, Virginia 23219

[ § 4. 24 VAC 30-61-40. ] Restrictions on hazardous material transportation across urban and water-proximate facilities.

Hazardous materials are regulated in the [ five four ] urban and water-proximate tunnels (Elizabeth River (Midtown and Downtown), Hampton Roads, [ and ] Monitor-Merrimac [ and Chesapeake Bay ] based exclusively on the "hazard class" of the material being conveyed. The following tables list those categories of materials grouped under the designations "Prohibited," "No Restrictions," or "Restricted." [ \*\* Please contact the Chesapeake Bay Bridge Tunnel at (804) 331-2960 for information on their regulation. ]

**\*PROHIBITED\***

Materials defined in the following classes are not allowed passage through the [ five four ] urban, water-proximate tunnels.

4.2	Spontaneously Combustible	49 CFR § 172.547
6.1 (PG I or II, other than PG I inhalation hazard)	Poison	49 CFR § 172.554
6.1 (PG III)	Keep Away From Food	49 CFR § 172.553
6.2	(None)	
7 Radioactive	Radioactive	49 CFR § 172.556
9	Class 9	49 CFR § 172.560
ORM-D	(None)	

CATEGORY	PLACARD NAME	PLACARD REFERENCE
1.1	Explosives 1.1	49 CFR § 172.522
1.2	Explosives 1.2	49 CFR § 172.522
1.3	Explosives 1.3	49 CFR § 172.522
2.3	Poison Gas	49 CFR § 172.540
4.3	Dangerous When Wet	49 CFR § 172.548
6.1 (PG I, inhalation hazard only)	Poison	49 CFR § 172.554

**\*NO RESTRICTIONS\***

Materials in the following hazard classes are not restricted in the [ five four ] urban, water-proximate tunnels.

**\*RESTRICTED\***

Materials in the following hazard classes are allowed access to the [ five four ] urban, water-proximate tunnels in "Non-bulk" (maximum capacity of 119 gallons/450 liters or less as a receptacle for liquids, a water capacity of 1000 pounds/454 kilograms or less as a receptacle for gases, and a maximum net mass of 882 pounds/400 kilograms or less and a maximum capacity of 119 gallons/450 liters or less as a receptacle for solids) quantities per container only.

CATEGORY	PLACARD NAME	PLACARD REFERENCE
2.1	Flammable Gas	49 CFR § 172.532
3	Flammable	49 CFR § 172.542
5.1	Oxidizer	49 CFR § 172.550
5.2	Organic Peroxide	49 CFR § 172.552
8	Corrosive	49 CFR § 172.558

CATEGORY	PLACARD NAME	PLACARD REFERENCE
1.4	Explosives 1.4	49 CFR § 172.523
1.5	Explosives 1.5	49 CFR § 172.524
1.6	Explosives 1.6	49 CFR § 172.525
2.2	Nonflammable Gas	49 CFR § 172.528
Combustible liquid	Combustible	49 CFR § 172.544
4.1	Flammable Solid	49 CFR § 172.546

V.A.R. Doc. No. R96-31; Filed September 27, 1995, 9:21 a.m.

# STATE CORPORATION COMMISSION

AT RICHMOND, SEPTEMBER 18, 1995

COMMONWEALTH OF VIRGINIA

At the relation of the

STATE CORPORATION COMMISSION

CASE NO. PUE950089

Ex Parte, In the matter of reviewing and considering Commission policy regarding restructuring of and competition in the electric utility industry

## ORDER ESTABLISHING INVESTIGATION

In the last several years, interest in the introduction and utilization of competitive market forces in the electric industry at both the wholesale and retail level has increased. Restructuring occurring in other regulated industries has also focused attention on the structure and operation of electric utilities in their provision of service to customers.

In addition, developments at the federal level are influencing the structure of the electric industry, and statutory and regulatory changes are likely to continue to have a significant impact. The Public Utility Regulatory Policies Act of 1978 ("PURPA") requires utilities to purchase capacity and energy from qualifying facilities at each utility's avoided cost, thereby introducing an alternative source for meeting the generation needs of the utility. Virginia has on-line approximately 3,300 megawatts of non-utility generation spawned directly or indirectly by PURPA. The Energy Policy Act of 1992 provides the Federal Energy Regulatory Commission ("FERC") authority to order wholesale wheeling, and FERC has proposed rules which, if adopted, will mandate open access transmission for wholesale sales of electricity.

Many states are seeking to determine the role that competitive market forces should play in the provision of retail electric service. This interest in electric utility restructuring is driven by a number of factors, including: an apparent present abundance of electric generating capability; efficiency developments in electric generating technologies; declining cost of intermediate and peaking facilities; low cost natural gas supplies; and substantial price differentials among utilities, regions, and states. States where prices of electric service are highest are considering changes in market structure in the hope of reducing electric rates. Large users of electricity, in particular, have sought expanded supply and pricing options, and the perception of excess capacity and low-priced power has increased interest in access to alternative supplies. In anticipation of fundamental changes in markets, utilities in Virginia and elsewhere are engaging in significant cost-cutting efforts in response to perceived competitive challenges.

Opinions differ over the feasibility and advisability of poolco's, retail wheeling, performance-based pricing, stranded cost recovery, and other concepts. This debate is fueled by a number of uncertainties. The presumed potential benefits of electric utility restructuring may not be quantifiable with any real degree of precision. The degree to which natural gas-dependent electric utilities may be subject to

seasonal price swings, the reliability of new technologies and fuel supplies, and potential increases in the cost of natural gas are major variables. Industry restructuring also creates uncertainty regarding electric service reliability and the addition of appropriate new electric generating facilities.

There are other significant issues. Utility exposure to stranded costs that may be caused by increased competition and the impacts of measures proposed to mitigate such costs may undermine the benefits of electric utility restructuring. Moreover, the benefits of restructuring initiatives to customers may be related to the development of effective competition. If the market is opened to competition, what structure is necessary to ensure that effective competition develops? How can customer choice be maximized? How will residential and commercial sectors of the market, which may not have readily available alternatives, be protected? These and related issues require evaluation.

Unlike many other states, Virginia is not plagued by high-cost power. The larger electric utilities in the Commonwealth are providing electric service at, or in some cases significantly below, the national average. Such standing does not mean, however, that there are no improvements that can be made to provide reliable service at lower cost. These possibilities must be explored. To the extent structural changes can provide lower rates without an unacceptable reduction in reliability, they should be carefully evaluated. The examination of these issues must give full consideration to such factors as reliability, continuity and stability of rates, fairness to all customers, fairness to investors, and whether truly competitive markets that are in the public interest can be developed. All avenues should be examined to ensure that all classes of customers receive reliable, reasonably priced electricity and that the competitiveness of Virginia's commercial and industrial entities is maintained.

In Virginia, we have supported competitive measures in the electric industry within the context of our statutory duties and responsibilities. In response to the capacity offered by non-utility generators after the enactment of PURPA, we adopted rules for electric capacity bidding programs,<sup>1</sup> one of the purposes of which was to protect the public by selecting the lowest cost offer of qualifying facilities for meeting additional capacity needs of utilities. We have also encouraged consideration of competitive bidding processes for demand-side programs as needs develop in the future.

Earlier this year, we directed our Staff to begin an informal inquiry into issues associated with potential restructuring and competition in the electric industry. We believe it is important to examine whether there are measures and policies that could reduce energy costs and maintain or improve electric service to Virginia's homes and businesses. Our Staff has begun meeting with utilities, electric cooperatives, industrial customers, non-utility generators, environmental representatives, and others to discuss their views on the changes which are taking place in the industry today, as well

<sup>1</sup>Ex Parte: In the matter of adopting Commission policy regarding the purchase of electricity by public utilities from qualifying facilities when there is a surplus of power available, Case No. PUE870080, 1988 S.C.C. Ann. Rept. 297; Ex Parte: In the matter of adopting Commission rules for electric capacity bidding programs, Case No. PUE900029, 1990 S.C.C. Ann. Rept. 340.

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# State Corporation Commission

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as the new directions, if any, which should be taken in the future.

We are mindful that fundamental changes in the structure of the industry and the regulation of public utilities have profound implications for the citizens and businesses of Virginia. The provision of electric service is vital to our physical and economic well being. The potential benefits and disadvantages of changes must be scrutinized carefully to ensure that customers have adequate opportunities to obtain the electric service they need at reasonable costs, without other customers, or the supplier itself, being treated unfairly.

At this juncture, we find it appropriate to establish a docket for this inquiry and to provide an opportunity for participation by all interested parties. As in other investigations, the touchstone for our inquiry shall be protection and promotion of the public interest. We will direct our Staff to continue and expand its investigation of current issues in the electric industry and to file a report on its observations and recommendations. The inquiry we envision is a broad one, and we direct all public utilities and cooperatives to assist the Staff and to respond promptly and fully to Staff's requests for information. We also urge other interested parties to work with the Staff and make their views known with as much detail and specificity as possible. The Staff shall investigate the emerging issues in the electric utility industry and shall include in its report responses to the following directives:

1. Analyze the conditions underlying the movement for restructuring the electric utility industry and assess the need for such change in Virginia. Compare current restructuring proposals to the existing regulatory framework in Virginia and the potential effects on customers.
2. Identify and assess the need for and potential benefits of competition in Virginia and, where appropriate, possible measures for promoting increased competition. Such an assessment should contrast potential advantages and disadvantages of restructuring and competition, as well as identify the obstacles to, and measures necessary for, development of a truly competitive market. The assessment should also analyze the impact of restructuring on varying customer groups and utilities.
3. Evaluate the competitiveness of current rates and potential stranded cost exposure of electric utilities in Virginia. This evaluation should include an assessment of the competitive impacts of contracts for purchased power and possible procedures for lowering the total costs associated with such contracts.
4. Identify and analyze potential treatments of stranded costs under differing industry scenarios.
5. Review existing Commission policies and objectives to determine if they are compatible with desirable competition and the abilities of the Commission, Virginia utilities, and others to respond to competitive pressures. This review should include:
  - an evaluation of the Commission's policies regarding purchased power and associated costs and possible competitive issues associated with purchased power

obligations, and an evaluation of certification procedures for construction of generation facilities;

- an analysis of the Commission's policies governing promotional practices and conservation/load management programs;
- an evaluation of existing ratemaking policies, *i.e.*, the rationales for class cost allocations, deferred accounting, recovery of fuel costs, rate design objectives, rate class parity, and treatment of commercially-sensitive information;
- an analysis of whether increased competition will impact a utility's willingness to take appropriate steps to address environmental concerns;
- an assessment of changes in business and financial risks and the effects of competition on the financial conditions of Virginia's utilities;
- an evaluation of the potential impacts of holding company structures and possible consolidation and diversification in the changing utility industry; and
- an analysis of the ability of utilities to engage in and respond to competitive pressures.

6. Examine the Commission's statutory authority and make appropriate suggestions for any modifications of statutes including those to allow or authorize competitive actions or programs such as retail wheeling experiments, corporate restructuring, innovative or flexible pricing proposals, and non-traditional utility services.

7. Identify and discuss the views of interested parties as to changes advocated in the current regulatory framework for electric utilities, including regulatory procedures, pricing, supply choice, reliability, and stranded costs.

The Staff shall prepare a report of its findings and recommendations to the Commission for its consideration. While we expect the report to include the general positions of various interests, we will also provide an opportunity for any interested party to file comments on the Staff report and to request oral argument.

Accordingly, IT IS ORDERED THAT:

(1) All investor-owned electric utilities and electric cooperatives are made parties to this proceeding and shall respond to the Staff's requests for information. Any other person who desires to be placed on the service list may do so upon written request to the Clerk of the Commission.

(2) The Staff of the Commission shall investigate and prepare a report on the issues outlined in this order on or before March 29, 1996, and the report shall be made available to the public upon request.

(3) All interested parties may file written comments and requests for oral argument in response to the Staff Report with the Clerk of the Commission on or before May 31, 1996.

(4) On or before October 27, 1995, each investor-owned electric public utility and electric cooperative subject to the Commission's jurisdiction shall make a copy of this Order,

together with the appendices thereto, available for public inspection during regular business hours at all of its business offices where customer bills may be paid. These utilities shall likewise make a copy of the Staff's Report available for public inspection when it is filed. The Commission's Document Control Center shall forthwith make a copy of this Order available for public review in its office, located on the first floor of the Tyler Building, 1300 East Main Street, Richmond, Virginia, during its regular business hours.

(5) The Division of Economics and Finance shall cause a copy of the following notice to be published in the Virginia Register and as display advertisement on one occasion in major newspapers of general circulation within the Commonwealth of Virginia on or before October 27, 1995:

**NOTICE TO THE PUBLIC OF THE INVESTIGATION OF THE  
STATE CORPORATION COMMISSION INTO AN  
APPROPRIATE POLICY REGARDING RESTRUCTURING  
OF AND COMPETITION IN THE ELECTRIC UTILITY  
INDUSTRY - CASE NO. PUE950089**

By Order dated September 18, 1995, the State Corporation Commission instituted a proceeding to review and consider policy regarding restructuring and the role of competition in the electric utility industry in Virginia. The Commission has directed its Staff to conduct an investigation of current issues in the electric utility industry and to file a report of its observations and recommendations on issues identified in the Commission's Order. Interested parties are encouraged to make their views on issues known to the Staff prior to the issuance of the Staff Report, which is scheduled to be filed on March 29, 1996. Interested parties will thereafter also have an opportunity to file comments on the Staff Report and requests for oral argument on or before May 31, 1996. Comments or requests for oral argument must be filed with the Clerk of the Commission, c/o Document Control Center, P.O. Box 2118, Richmond, Virginia 23216, and must refer to Case No. PUE950089. A copy of the Commission's Order establishing this proceeding and setting forth the parameters of the investigation in more detail can be obtained by contacting the Clerk of the Commission.

DIVISION OF ECONOMICS AND FINANCE  
STATE CORPORATION COMMISSION

(6) On or before November 29, 1995, the Division of Economics and Finance shall file with the Clerk of the Commission proof of publication.

(7) This matter is continued pending further order of the Commission.

AN ATTESTED COPY hereof shall be mailed by the Clerk of the Commission to: all Virginia Electric Cooperatives and Electric Utilities as set out on Appendix A to this Order; the additional service list attached as Appendix B hereto; and the Commission's Divisions of Energy Regulation, Economics and Finance, and Public Utility Accounting.

## Electric Cooperatives in Virginia

A&N Electric Cooperative  
Mr. Vernon N. Brinkley  
Executive Vice President  
P.O. Box 1128  
Parksley, Virginia 23421

B-A-R-C Electric Cooperative  
Mr. Hugh M. Landes  
General Manager  
P.O. Box 264  
Millboro, Virginia 24460-0264

Central Virginia Electric Cooperative  
Mr. Howard L. Scarboro  
General Manager  
P.O. Box 247  
Lovingston, Virginia 22949

Community Electric Cooperative  
Mr. J. M. Reynolds  
General Manager  
Post Office Box 267  
Windsor, Virginia 23487

Craig-Botetourt Electric Cooperative  
Mr. Gerald H. Groseclose  
General Manager  
Post Office Box 265  
New Castle, VA 24127

Mecklenburg Electric Cooperative  
Mr. John Bowman  
General Manager  
Caller 2451  
Chase City, Virginia 23924-2451

Northern Neck Electric Cooperative  
Mr. Charles R. Rice, Jr.  
General Manager  
Post Office Box 288  
Warsaw, Virginia 22572-0288

Northern Virginia Electric Cooperative  
Mr. Stanley C. Feuerberg  
General Manager  
Post Office Box 2710  
Manassas, VA 22110

Powell Valley Electric Cooperative  
Mr. Randell W. Meyers  
General Manager  
Post Office Box 308  
Church Street  
Jonesville, VA 24263

Prince George Electric Cooperative  
Mr. Dale Bradshaw  
General Manager  
Post Office Box 168  
Waverly, VA 23890

# State Corporation Commission

Rappahannock Electric Cooperative  
Mr. Cecil E. Viverette, Jr.  
President  
Post Office Box 7388  
Fredericksburg, VA 22404-7388

Shenandoah Valley Electric Cooperative  
Mr. C. D. Wine  
Executive Vice President  
Post Office Box 236  
Route 257  
Mt. Crawford, VA 22841-0236

Southside Electric Cooperative  
Mr. John C. Anderson  
Executive Vice President  
Post Office Box 7  
Crewe, VA 23930

## Electric Companies in Virginia

Appalachian Power Company  
Mr. R. Daniel Carson, Vice President  
Post Office Box 2021  
Roanoke, VA 24022-2121

Delmarva Power & Light Company  
Mr. R. Erik Hansen  
General Manager, Pricing and Regulation  
800 King Street  
Post Office Box 231  
Wilmington, Delaware 19899

Kentucky Utilities Company  
Mr. Robert M. Hewett  
Vice President, Regulation and Economic Planning  
One Quality Street  
Lexington, Kentucky 40507

The Potomac Edison Company  
Mr. James D. Latimer, Executive Vice-President  
10435 Downsville Pike  
Hagerstown, Maryland 21740

Virginia Power Company  
Mr. Edgar M. Roach, Jr.  
Vice President-Regulation and General Counsel  
Box 26666  
Richmond, VA 23261

Apartment & Office Building Association  
Frann G. Francis, Esquire  
1050 17th Street, N.W., Suite 300  
Washington, D.C. 20036

Appomattox Cogeneration, Ltd.  
Hopewell Cogeneration, L.P.  
Wythe Park Power  
Enron-Richmond Power Corporation  
Cogentrix of Virginia Leasing  
Mark J. LaFratta, Esquire  
McGuire, Woods, Battle & Boothe  
One James Center  
Richmond, Virginia 23219-4030

Browning-Ferris Gas Services  
Philip F. Abraham  
P.O. Box 788  
Richmond, Virginia 23206

CRSS Capital, Inc.  
Timothy R. Dunne, Esquire  
P.O. Box 22477  
Houston, Texas 77227-2427

Celanese Fibers, Inc.  
Robert Gribben  
Narrows, Virginia 24124

Chesapeake-Westvaco Corporation  
Virginia Hydro Power Association  
Chesapeake Paper Products Company  
c/o Edward L. Flippen, Esquire  
Mays & Valentine  
P.O. Box 1122  
Richmond, Virginia 23208-1122

City of Richmond  
David B. Kearney, Esquire  
900 East Broad Street, Suite 300  
Richmond, Virginia 23219

Cogentrix, Inc.  
T. Randolph Perkins, Esquire  
9405 Arrow Point Boulevard  
Charlotte, North Carolina 28217

Corning Glass Works  
Hooker W. Horton  
Purchasing Manager-Energy  
HP-ME-1-10  
Corning, New York 14831

Dan River Mills  
K.W. Parrish  
Director of Engineering and Utilities  
P.O. Box 261  
Danville, Virginia 24523

Department of Energy  
Lawrence A. Gollomp  
Assistant General Counsel for Regulatory  
Interventions and Power Marketing  
1000 Independence Avenue, S.W., Room 6d-033  
Washington, D.C. 20585

## APPENDIX B

### ADDITIONAL SERVICE LIST

Allied-Signal, Inc.  
Edward R. Pruitt  
P.O. Box 2006R  
Morristown, New Jersey 07960

American Lung Association of Virginia  
Stephen M. Ayres, M.D.  
P.O. Box 7065  
Richmond, Virginia 23221-0065

Anheuser-Busch Companies, Inc.  
Gary Foster  
One Busch Place  
St. Louis, Missouri 63118

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## State Corporation Commission

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Department of Environmental Quality  
Tom Griffith, Environmental Review Coordinator  
629 East Main Street, 6th Floor  
Richmond, Virginia 23219

Du Pont/Conoco  
Steven A. Huhman  
Coordinator-Regulatory Affairs  
CH1002  
P.O. Box 2197  
Houston, Texas 77252

Energy Consultants, Inc.  
William D. Kee, Jr., President  
1439 Great Neck Road, Suite 202L  
Virginia Beach, Virginia 23454-1347

Electric Generation Association  
Margaret A. Welsh  
2101 L Street, N.W., #405  
Washington, D.C. 20037

Fairfax County Board of Supervisors  
Dennis R. Bates, Esquire  
1200 Government Center Parkway, #549  
Fairfax, Virginia 22035

Ford Motor Company  
F. C. Corley, P.E.  
Energy Efficiency and Supply Department  
15201 Century Drive, Suite 602 CPN  
Dearborn, Michigan 48120

Owens-Brockway Glass Container, Inc.  
John Wesolowski  
One Seagate  
Toledo, Ohio 43604

Griffin Pipe Products Co.  
John Keenan  
Director, Purchasing and Traffic  
1400 Opus Place, Suite 700  
Downers Grove, Illinois 60515-5700

Hershey Foods  
Don A. Hornung  
Energy Affairs Officer  
19 East Chocolate Avenue  
Hershey, Pennsylvania 17033-0819

Home Builders Association of Virginia  
Eric M. Page, Esquire  
316 West Broad Street  
Richmond, Virginia 23220

ICI Americas, Inc.  
Rod Davies, Energy Specialist  
Corporate Purchasing  
Delaware Corporate Center One  
Wilmington, Delaware 19897

Intermet Corporation  
L. E. Glass  
Corporate Energy Department  
P.O. Box 6200  
Lynchburg, Virginia 24505

Kenworth E. Lion, Esquire  
Jackson, Pickus & Associates, P.C.  
2201 West Broad Street, Suite 100  
Richmond, Virginia 23220

Loral Federal Systems  
David M. Karle, Advisory Engineer  
9500 Godwin Drive  
Manassas, Virginia 22110

Mid-Atlantic Independent Power Producers  
Dee Tagliavia, Executive Director  
105-A East Holly Avenue  
Sterling, Virginia 20164

Metro Machine Corporation  
Charles Garland  
Imperial Docks  
P.O. Box 1860  
Norfolk, Virginia 23501

Nabisco Brands, Inc.  
Henry Riewerts  
100 DeForest Avenue  
P.O. Box 1911  
East Hanover, New Jersey 07936

National Independent Energy Producers  
c/o Karen A. Tomcala, Esquire  
Latham & Watkins  
1001 Pennsylvania Avenue, N.W., #1300  
Washington, D.C. 20004-2505

Natural Resources Defense Council  
Daniel Lashof  
1350 New York Avenue, N.W.  
Washington, D.C. 20005

Office of the Attorney General  
Division of Consumer Counsel  
Edward L. Petrini, Esquire  
900 East Main Street, Second Floor  
Richmond, Virginia 23219

Old Dominion Committee for Fair Utility Rates  
Virginia Committee for Fair Utility Rates  
Bear Island Paper Company  
Virginia Gas Users Association  
Louis R. Monacell, Esquire  
1200 Mutual Building  
909 East Main Street  
Richmond, Virginia 23219-3095

Old Dominion Electric Cooperative  
Ronald W. Watkins  
President and Chief Executive Officer  
4201 Dominion Boulevard, Suite 300  
Glen Allen, Virginia 23060

Peat Energy, Inc.  
Wayne S. Leary  
1006 Albemarle Court  
New Bern, North Carolina 28562-2502

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## State Corporation Commission

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Philip Morris, USA  
Frederick H. Ritts, Esquire  
1025 Thomas Jefferson Street, N.W.  
Washington, D.C. 20007

Piedmont Environmental Council  
28-C Main Street  
P.O. Box 460  
Warrenton, Virginia 22186

Plantation House  
J. B. Hall, Jr.  
1108 East Main Street, Suite 700  
Richmond, Virginia 23219

Reynolds Metals Company  
Kenneth A. Berry, Esquire  
Law Department, EXO-21  
P.O. Box 27003  
Richmond, Virginia 23261

Rock-Tenn Company  
Al Smith  
P.O. Box 4098  
Norcross, Georgia 30091

Rural Virginia, Inc.  
Richard D. Cagan, Registered Agent  
Virginia Council of Churches  
1214 West Graham Road, #3  
Richmond, Virginia 23220-1409

Seakay Electrical Conservation  
David T. Byrnes, Vice President  
2700 South Quincy Street, Suite 530  
Arlington, Virginia 22206

SEI Birchwood, Inc.  
Douglas L. Miller, Esquire  
600 Peachtree Street, N.E., Suite 5200  
Atlanta, Georgia 30308-2216

Sierra Club - Virginia Chapter  
William B. Grant, Chairman  
Energy Conservation Subcommittee  
803 Marbank Drive  
Yorktown, Virginia 23692-4353

Southern Environmental Law Center  
Oliver A. Pollard, III, Esquire  
Jeffrey M. Gleason, Esquire  
201 West Main Street  
Charlottesville, Virginia 22902

Sycom Enterprise  
S. Lynne Sutcliffe  
7475 Wisconsin Avenue, 6th Floor  
Bethesda, Maryland 20814

Union Camp Corporation  
Edward C. Minor  
Associate General Counsel  
Route 58 East  
Franklin, Virginia 23851-0178

Virginia Association of Non-Utility Power Producers  
August Wallmeyer, Executive Director  
700 East Franklin Street, Suite 701  
Richmond, Virginia 23219

Virginia Citizens Consumer Council  
Jean Ann Fox, President  
114 Coachman Drive  
Yorktown, Virginia 23693

Virginia Cogen  
David C. Pace  
P.O. Box 34652  
Richmond, Virginia 23234

Virginia-Maryland-Delaware Association  
Charles C. Jones, Jr., Executive Vice President  
4201 Dominion Boulevard, Suite 200  
Glen Allen, Virginia 23060

Virginia Citizen Action  
1531 West Main Street, Second Floor  
Richmond, Virginia 23220

Virginia Cooperative Extension Service  
VPI and State University  
Lori Marsh  
Assistant Professor and Extension Agricultural Engineer  
Blacksburg, Virginia 24061-0512

Virginia Council Trout Unlimited  
DuBose Egleston, Jr., Chairman  
P.O. Box 838  
Waynesboro, Virginia 22980

Virginia Wildlife Federation  
Neal D. Emerald  
5915 Grisby House Court  
Centreville, Virginia 22020

Westvaco Corporation  
c/o John J. Carrara, Esquire  
299 Park Avenue  
New York, New York 10171

VA.R. Doc. No. R96-27; Filed September 21, 1995, 11:29 a.m.

# MARINE RESOURCES COMMISSION

## MARINE RESOURCES COMMISSION

**NOTICE:** The Marine Resources Commission is exempted from the Administrative Process Act (§ 9-6.14:4.1 of the Code of Virginia); however, it is required by § 9-6.14:22 B to publish all final regulations.

**Title of Regulation:** VR 450-01-0033. Pertaining to the Tangier Island Crab Scrape Sanctuary.

**Statutory Authority:** § 28.2-201 of the Code of Virginia.

**Effective Date:** September 18, 1995

**Preamble:**

*This regulation prohibits the setting of crab pots and the taking of hard crabs by any gear in a small area north of Tangier Island.*

**Agency Contact:** Copies of the regulation may be obtained from Deborah McCalester, Regulatory Coordinator, Marine Resources Commission, P.O. Box 756, Newport News, VA 23607, telephone (804) 247-2248.

**§ 1. Purpose.**

The purpose of this chapter is to minimize gear conflicts existing between crab pot fishermen and crab scrape fishermen in an area of Chesapeake Bay north of Tangier Island.

**§ 2. Gear limitation, closed area.**

It shall be unlawful for any person to place, set or fish a crab pot or to harvest hard crabs by any gear in the following area: (all latitudes and longitudes are based on North American Datum, 1927) beginning at near the northernmost point of Fishbone Island,  $37^{\circ} 53' 40''$  at  $37^{\circ} 53' 08.9772''$  North/ $76^{\circ} 00' 40''$ ,  $76^{\circ} 00' 10.6917''$  West; thence in a northerly direction approximately 0.90 miles to a point on near the eastern shore of Herring Island,  $37^{\circ} 54' 03''$  at  $37^{\circ} 54' 02.7340''$  North/ $76^{\circ} 00' 29''$ ,  $76^{\circ} 00' 29.6478''$  West; thence in a northerly direction approximately 1.68 miles to a point on South Point Marsh known as near Peach Orchard Point,  $37^{\circ} 55' 41''$  at  $37^{\circ} 55' 41.1274''$  North/ $76^{\circ} 00' 55''$ ,  $76^{\circ} 00' 54.9390''$  West; thence following the shoreline of South Point Marsh to a point near South Point,  $37^{\circ} 55' 19''$  at  $37^{\circ} 55' 19''$  North/ $76^{\circ} 01' 32''$  at  $76^{\circ} 01' 32''$  West; thence due West approximately 0.75 miles to the overhead power cable at near the westernmost point of Shanks Island,  $37^{\circ} 55' 20''$  North/ $76^{\circ} 02' 32''$  West; thence in a southeasterly direction, along the overhead powerline power cable approximately 2.85 miles to a point near Upper Tump,  $37^{\circ} 52' 50''$  at  $37^{\circ} 52' 50''$  North/ $76^{\circ} 00' 47''$ ,  $76^{\circ} 00' 47''$  West; thence in a northeasterly direction approximately 0.60 miles to a point near the northernmost point of Fishbone Island, the point of beginning.

**§ 3. Penalty.**

As set forth in § 28.2-903 of the Code of Virginia, any person violating any provision of this regulation shall be guilty of a Class 3 misdemeanor, and a second or subsequent violation of any provision of this regulation committed by the

same person within 12 months of a prior violation is a Class 1 misdemeanor.

/s/ William A. Pruitt  
Commissioner

VA.R. Doc. No. R96-36; Filed September 18, 1995, 10:22 a.m.

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**Title of Regulation:** VR 450-01-0050. Pertaining to Grey Trout.

**Statutory Authority:** § 28.2-201 of the Code of Virginia.

**Effective Date:** September 27, 1995.

**Preamble:**

*This regulation establishes limitations on the commercial and recreational harvest of grey trout in order to reduce the fishing mortality rate and to rebuild the severely depleted stock of grey trout. The limitations include minimum size limits, gear restrictions and season limits for the commercial fishery and minimum size and possession limits for the recreational fishery. This regulation is promulgated pursuant to authority contained in § 28.2-201 of the Code of Virginia. This regulation amends previous VR 450-01-0050 which was adopted by the Marine Resources Commission on March 28, 1995, and made effective April 4, 1995. The effective date of this regulation is September 27, 1995.*

**Agency Contact:** Deborah R. McCalester, Marine Resources Commission, P.O. Box 756, Newport News, VA 23607, telephone (804) 247-2248.

VR 450-01-0050. Pertaining to Grey Trout.

**§ 1. Purpose.**

The purpose of this regulation is to achieve at least a 33% reduction in the grey trout fishing mortality rate during the April 1, 1995, through March 31, 1996, period, thereby reducing the probability of recruitment failure and stock collapse and to allow for a rebuilding of the spawning stock. This regulation is designed to be consistent with federal and interstate management measures.

**§ 2. Definitions.**

The following words and terms, when used in this regulation, shall have the following meaning unless the context clearly indicates otherwise.

"Closed season" means an interval of time, in days, when it shall be unlawful to possess grey trout.

"Grey trout" means any fish of the species *Cynoscion regalis*.

**§ 3. Minimum size limits.**

A. For any person fishing with pound net or haul seine there shall be no minimum size limit on grey trout.

B. It shall be unlawful for any person fishing with gill nets to possess any grey trout less than 12 inches in length.

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# Marine Resources Commission

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C. It shall be unlawful for any trawl boat to land any grey trout in Virginia that are less than 12 inches in length.

D. It shall be unlawful for any person fishing with hook-and-line, rod-and-reel, or hand line to possess any grey trout less than 12 inches in length.

E. It shall be unlawful for any person using any gear type not specified in subsection A, B, C or D of this section to possess any grey trout less than nine inches in length.

F. Length is measured in a straight line from the tip of the nose to the tip of the tail.

## § 4. Gear restrictions.

It shall be unlawful for any trawl boat to land grey trout in Virginia while possessing on board any trawl net having a cod-end mesh less than three inches, stretched measure.

## § 5. Commercial fishing season.

A. It shall be unlawful for any person fishing with pound net to possess any grey trout during the closed seasons of May 1 through May 22, 1995, and September 13, 1995, through March 31, 1996, except as provided in subsections B and D of this section.

B. Any pound net fisherman who held 2 or 3 pound net licenses as of August 5, 1994, and forfeits one of those licenses shall be eligible to possess grey trout during the closed season as established in subsection A of this section. Any pound net fisherman who held 4, 5, or 6 pound net licenses as of August 5, 1994, and forfeits two of those licenses shall be eligible to possess grey trout during the closed season established in subsection A of this section. Any pound net fisherman who held 7, 8, or 9 pound net licenses as of August 5, 1994, and forfeits three of those licenses shall be eligible to possess grey trout during the closed season as established in subsection A of this section. Forfeiture shall be through March 31, 1996.

C. Any pound net licensee who forfeits a license pursuant to subsection B of this section shall retain his priority rights to such locations for future licensing until April 1, 1996.

D. Those pound net licensees who hold multiple gear licenses and satisfy the requirement of subsection A or B of this section may transfer an unused license to a licensee who holds a single pound net license.

E. The closed seasons on grey trout harvested by gill net shall be May 14 through ~~October 14, 1995~~ *October 7, 1995*, and December 18, 1995, through March 31, 1996.

F. The closed seasons on grey trout harvested by haul seine shall be April 1 through April 15, 1995; June 11 through August 20, 1995; and ~~September 20, 1995, through March 31, 1996.~~ *September 20 through September 26, 1995; and October 3, 1995, through March 31, 1996.*

G. The closed season on landing grey trout harvested by trawl shall be September 26, 1995, through ~~December 31, 1995~~ *March 31, 1996.*

## § 6. Possession limit.

It shall be unlawful for any person fishing with hook-and-line, rod-and-reel, or hand line to possess more than four

grey trout. When fishing from a boat or vessel where the entire catch is held in a common hold or container, the possession limit shall be for the boat or vessel and shall be equal to the number of persons on board legally eligible to fish multiplied by four. The captain or operator of the boat or vessel shall be responsible for any boat or vessel possession limit. Any grey trout taken after the possession limit has been reached shall be returned to the water immediately.

## § 7. Penalty.

As set forth in § 28.2-903 of the Code of Virginia, any person violating any provision of this regulation shall be guilty of a Class 3 misdemeanor, and a second or subsequent violation of any provision of this regulation committed by the same person within 12 months of a prior violation is a Class 1 misdemeanor.

/s/ William A. Pruitt  
Commissioner

VA.R. Doc. No. R96-39; Filed September 27, 1995, 11:40 a.m.

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# GOVERNOR

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## GOVERNOR'S COMMENTS ON PROPOSED REGULATIONS

(Required by § 9-6.12:9.1 of the Code of Virginia)

### DEPARTMENT OF TRANSPORTATION

Title of Regulation: VR 385-01-05. Hazardous Materials Rules and Regulations at Bridge-Tunnel Facilities (REPEAL).

VR 385-01-05:1. Hazardous Materials Rules and Regulations at Bridge-Tunnel Facilities.

Governor's Comment:

I have reviewed this proposed regulation on a preliminary basis. While I reserve the right to take action authorized by the Administrative Process Act during the final adoption period, I have no objection to the proposed regulation based on the information and public comment currently available.

/s/ George Allen

Governor

Date: September 15, 1995

VA.R. Doc. No. R96-28; Filed September 25, 1995, 11:19 a.m.

### VIRGINIA WASTE MANAGEMENT BOARD

Title of Regulation: VR 672-30-1. Regulations Governing the Transportation of Hazardous Materials.

Governor's Comment:

This regulation is mandated by federal and state law. I have reviewed the proposed regulation on a preliminary basis. While I reserve the right to take action authorized by the Administrative Process Act during the final adoption period, I have no objection to the proposed regulation based on the information and public comment currently available.

/s/ George Allen

Governor

Date: May 8, 1995

VA.R. Doc. No. R96-38; Filed September 28, 1995, 10:50 a.m.

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**SJR 385: Joint Subcommittee Studying Alternative Means for Encouraging the Early Settlement of Tort Cases**

September 6, 1995, Richmond

model of South Dakota would not significantly change the result in most tort cases but would enhance the fairness and credibility of the tort system.

Opponents of any rule of comparative fault suggest that contributory negligence is at least partially responsible

**Offers of Settlement**

Following up on a staff presentation made at the last meeting on offer-of-settlement statutes and rules in other jurisdictions, the joint subcommittee requested additional information on the frequency of use and effects of these statutes and rules in other states. Staff was asked to focus particularly on those three states and the District of Columbia which, like Virginia, adhere to the rule of contributory negligence, whereby any negligence on the part of the plaintiff will bar his or her recovery. Unfortunately no statistical data were found to exist in any state court system, nor do the federal courts keep data in such a way that the use and/or effects could be evaluated. Representatives of the Virginia Bar Association and the Trial Lawyers Association also were unsuccessful in their attempts to locate the data. Thus much of the discussion on offer of settlement continued to rely on anecdotal evidence.

The plaintiffs' bar opposes offer of settlement because of the inherent unfairness of the rule when coupled with contributory negligence. Abrogation of the rule of contributory negligence and modification of the federal model to allow the plaintiff to make a triggering offer would level the playing field, making offers of settlement a desirable procedural tool for plaintiffs. The rule of contributory negligence is today viewed by many jurors as so unfair that it is often ignored. This result does nothing to enhance the integrity of the judicial system. However, it was suggested that because this happens relatively frequently, particularly where the plaintiff's negligence is slight when compared with the defendant's, adoption of comparative fault based upon the slight/gross

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for the relative stability of Virginia's tort system and for generally low insurance rates. The American Insurance Association would support the Virginia version of offer of settlement, which allows the plaintiff to make a triggering offer, but would strongly oppose adoption of offer of settlement if it were linked to adoption of any form of comparative fault.

The subcommittee heard little evidence that offer-of-settlement statutes or rules in other states were having the desired effect of encouraging early settlements. While a majority of states have some form of offer of settlement, the anecdotal evidence presented suggests that the rule is infrequently invoked. This was somewhat surprising to the subcommittee, particularly with respect to those jurisdictions adhering to the contributory negligence rule and in those jurisdictions (e.g., the federal courts) where only the defendant may make a triggering offer.

In the absence of any evidence that offer-of-settlement proposals work to resolve civil matters quickly and fairly, the subcommittee concluded that such a statute should not be enacted at this time. The subcommittee also found that legislation considered in the past by the General Assembly may not provide meaningful sanctions in the event a defendant unreasonably fails to accept a plaintiff's offer. The subcommittee believes that increased use of pretrial procedures that encourage the parties to realistically evaluate the case is much more desirable at this time. Specifically the subcommittee believes mediation should be encouraged and that pretrial conferences should be held more often and cover a greater breadth of issues.

### Mediation

The use of mediation and the number of mediators is growing rapidly in Virginia, according to the Supreme Court's Office of Dispute Resolution Services. Unlike offer of settlement, there is no penalty attached to mediation; it is a voluntary process. A judge may order the parties to attend an evaluation session to allow them to determine whether mediation would help resolve the matter. Thereafter, under current law, the parties may opt out of mediation at any time. A party may also object to attending the evaluation session, in which case no evaluation session is held. The settlement rate for mediated cases in Virginia is within the range of the national norm of 80-90 percent. The committee believes that increased familiarity with mediation on the part of judges, lawyers, and the public will necessarily increase the frequency with which mediation is used to quickly and fairly resolve tort cases.

### Pretrial Conferences

Rule 4:13 allows, but does not require, the trial court to hold a pretrial conference with the attorneys for the parties. The subcommittee believes that a pretrial conference should be held upon request of either party, not merely when the judge decides to do so. Further, the pretrial conference should include discussion of a broader range of issues to allow for a thorough evaluation of the feasibility of settling the case. Among the

issues to be discussed would be the possibility of resolving the matter through mediation.

The subcommittee will ask the Supreme Court to amend Rule 4:13. Several factors require more in-depth analysis before the rule could be properly amended. For example, if a judge were to participate in the mediation process or in an evaluation session, that judge should not then be the trial judge in the event the case fails to settle. The subcommittee also discussed the issue of when the request for the pretrial conference would be made. The subcommittee determined that the Supreme Court should make these determinations in the course of its review of Rule 4:13.

Chairman Stolle will ask the Supreme Court to make the recommended changes to Rule 4:13 and will advise the subcommittee of the response. Should the court accept the subcommittee's recommendations, no more subcommittee meetings will be held.



The Honorable Kenneth W. Stolle, *Chairman*  
Legislative Services contact: Mary P. Devine

## Oil and Gas Subcommittee of the Virginia Coal and Energy Commission

*September 11, 1995, Richmond*

The Oil and Gas Subcommittee met to discuss issues affecting natural gas exploration and production in Virginia. The director of the Department of Mines, Minerals and Energy's (DMME) Division of Gas and Oil told the subcommittee that the number of permits issued in 1994 was 49 percent below the number issued in 1992, and the number of permit applications is expected to decrease further in 1995. While the number of wells is decreasing, however, production of natural gas continues to increase: 37 billion cubic feet (BCF) was produced in 1993, and 50.2 BCF 1994. In 1994, over 51 percent of the gas produced in Virginia came from Buchanan County; Dickinson and Wise Counties followed with 28 percent and 18 percent, respectively.

### Coalbed Methane

The increase in production is due largely to the increasing coalbed methane production. In 1989, 0.2 BCF of coalbed methane was produced in Virginia. In 1993, the first year in which more coalbed methane was produced than conventional gas, 19.9 BCF was produced and in 1994, 28.3 BCF. Of the 93 natural gas wells that have been drilled in the first three quarters of 1995, 86 are coalbed methane wells. In 1994, coalbed methane accounted for 56.4 percent of Virginia's natural gas production. DMME expects production of coalbed methane to continue to increase. Because the first coalbed methane well in Virginia was drilled in 1988, the life expectancy for such wells is uncertain.

While conventional wells have a life of about 40 years, coalbed methane wells may last for only 15 years.

## Richmond Basin

A representative of Commonwealth Energy Company discussed coalbed methane development of the Richmond Basin, much of which lies in Chesterfield County. Coal was mined in this Triassic basin from 1748 until 1927. A paper published by the DMME's Division of Mineral Resources in February cites an estimate that 0.3 to 0.9 trillion cubic feet of methane are present in the basin. This DMME publication and others providing data on mineral reserves have been very useful to companies considering new gas development projects. Significant natural gas production and use in the Richmond metropolitan area could contribute to attainment of air quality standards in the region. A ready supply of natural gas is also a factor that could attract new industry to the region because the supply is unlikely to be interrupted. Operations are expected to commence in the Richmond Basin in September.

## Economic Impact

The president of the Virginia Oil and Gas Association (VOGA) told the subcommittee that the Virginia Center for Coal and Energy Research is completing a study of the economic impact of the oil and gas industry on Virginia. Recent events of importance to the industry include the selection of natural gas as the fuel at the Red Onion Mountain correctional facility, being built in Wise County. Another is an economic development initiative occurring in Dickinson County, where the industry is supplying free gas to industries that locate in a new industrial park.

## 1995 Legislation

The General Assembly enacted two pieces of legislation affecting the oil and gas industry in 1995. One designates DMME as the agency responsible for certifying whether equipment used in coal, oil, and gas production is pollution control equipment under Code § 58.1-3660, which allows local governments to exempt such equipment from local taxation. The other allows a pooling order containing a finding that an applicant for a coalbed methane gas well permit has exercised due diligence in attempting to locate the coal operator to satisfy the requirement that such permits contain the signed consent of all operators of nearby coal mines.

## Regulatory Review

DMME is reviewing its regulations pursuant to Governor Allen's executive orders directing agencies to determine whether their regulations cause Virginia industries to be at a competitive disadvantage compared to those in other states. VOGA's president told the subcommittee that DMME met with representatives of the oil and gas and coal industries and that consensus on the regulations that should be revised has been reached. He

said that obtaining permits and keeping them current is more expensive in Virginia than in Kentucky or in West Virginia because Virginia requires more paperwork. He expressed concern that any reduction in the regulatory burden on the oil and gas industry may not occur until late next year.

The subcommittee will monitor the progress of the regulatory review process.



The Honorable William C. Wampler, Jr., *Chairman*  
Legislative Services contact: Nicole R. Beyer

## Coal Subcommittee of the Virginia Coal and Energy Commission

*September 12, 1995, Roanoke*

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### Tax Credit

At its fifth meeting of the interim, the Coal Subcommittee agreed to propose that the coal production tax credit of Code § 58.1-439.2, enacted by the General Assembly in 1995, be doubled. The credit in its present amount is expected to have a gross cost to the state treasury of approximately \$15 million per year. (This amount was previously projected to be \$18 million; the reduction of the estimate to \$15 million is due to the loss of coal production from the recent closing of Westmoreland Coal Company's Virginia operation.)

### VCCER Study

A study recently completed by the Virginia Center for Coal and Energy Research (VCCER) predicts that, in its present amount, the tax credit would be unlikely to stimulate coal production in Virginia by more than one million tons per year. If the credit amounts of 25 cents per ton of surface coal produced and 50-60 cents per ton of underground coal produced were doubled, coal production could be increased between one and five million tons per year through 2005. A tripled tax credit could increase production by between one and six million tons per year. These are increases above projected production levels without the credit; because of declining coal reserves, overall production of coal will continue to decline.

### Saving Jobs

Increased production resulting from a doubled tax credit could prevent the loss of up to 5,000 jobs between now and the year 2004. The credit in its present amount is unlikely to save more than 1,000 jobs in that time period. A Weldon Cooper Center for Public Service study corroborates these findings and shows that the doubled credit should stabilize coal-related employment for several years. Rising unemployment would likely have a greater social impact in the coalfields than in other parts of the state

because fewer of that region's women are members of the labor force.

### Increased Revenues

The VCCER study also compared state and local revenues generated by enhanced coal production and employment with the gross outlay from the state treasury required to pay for the credit. The doubled tax is expected to result in increased revenues equaling 20 to 70 percent of the cost of the credit per year until 2005.



The Honorable Jackson E. Reasor, Jr., *Chairman*  
Legislative Services contact: Nicole R. Beyer

## Virginia Coal and Energy Commission

*August 28-29, 1995, Blacksburg*

The Virginia Coal and Energy Commission met at Virginia Tech in conjunction with the 26th Annual Institute on Mining Health, Safety and Research. The commission received progress reports on issues before the Coal and Energy Preparedness Subcommittees. Additionally, the Virginia Center for Coal and Energy Research reported on its research concerning the 1995 coal production tax credit bill. Recent developments concerning air emissions regulations were the subject of a presentation by the Virginia Center for Energy and Economic Development, and the commission learned about energy management and conservation at Virginia Tech.

### Coal Subcommittee

Chief on the commission's agenda was a report from its Coal Subcommittee summarizing progress on a study of proposed revisions to the coal production tax credit legislation of 1995 (HB 2575). The deliberations of the subcommittee are summarized above.

The commission addressed the subcommittee's current recommendations concerning HB 2575. As enacted, the bill's production tax credits may not be applied to coal producers' tax returns until 1999, and the availability of the credit is further conditioned on general fund revenue for fiscal year 1997-1998 exceeding projections by the credits' cost. The Coal Subcommittee urged the commission to support legislation removing both provisions, thus making the credit available to coal producers for use in their 1996 tax returns without any other restriction. The commission voted to approve this recommendation.

### Energy Preparedness Subcommittee

The commission also received a report from its Energy Preparedness Subcommittee concerning allocation of funds from the low-income fuel assistance program to the home weatheriza-

tion program. The subcommittee advised the commission that it had urged closer coordination of Virginia's principal energy assistance programs: the Low Income Home Energy Assistance Program (LIHEAP), which provides fuel assistance, and the Weatherization Assistance Program (WAP), which provides basic home weatherization. Both programs are principally funded through federal grants. LIHEAP is administered by the Department of Social Services; WAP is administered by the Department of Housing and Community Development.

Discussions between the two agencies ultimately led to a recommendation by the Board of Social Services that up to eight percent of the anticipated \$18 million LIHEAP grant for 1995-1996 be allocated to weatherization. This would result in approximately \$1.4 million transferred to WAP, a program that recently has required general fund appropriations (due to reduced federal funding) to keep the program operational statewide. The commission learned, however, that the board's recommendation has triggered an administrative issue: whether the LIHEAP fuel assistance program regulations must be amended through the Administrative Process Act to accommodate the weatherization funding allocation—a process that could take up to several months. Inasmuch as the issue had not been resolved and delay in its resolution could result in the unavailability of the funds for weatherization in 1995-1996, the commission voted to request an Attorney General's opinion on the APA issue.

### Energy Management and Conservation

The commission heard a presentation from Virginia Tech's Facilities Division concerning the university's electrical load management and energy conservation strategies. The division is responsible for furnishing electrical power, heating, and cooling to nearly all university buildings, a total of almost four million square feet.

The university has taken a number of energy-conserving measures, including the installation of over one million square feet of insulated roofing. Additionally, high-technology thermostatic control valves have been placed on all steam radiators throughout the campus, and new computerized energy management systems have been installed. Most importantly, all new construction incorporates energy-saving features and is connected to computerized energy management systems.

Virginia Tech's steam plant consumes over 30,000 tons of coal per year, representing 87 percent of the steam plant's fuel consumption. A new coal-fired boiler unit has been approved and will be under construction in the near future. The commission members learned that steam plant fuel consumption has remained level since the 1980s, due principally to the installation of insulated roofs.

### Air Quality Standards

The Virginia Center for Energy and Economic Development (CEED) presented a summary of recent developments on the federal air emissions regulation front. The commission learned

the Ozone Transport Assessment Group (OTAG) is working toward developing air emissions controls that may exceed those put in place by the 1990 Clean Air Act Amendments. OTAG's genesis is in the Northeast Ozone Transport Commission (OTC) which was created by the 1990 amendments.

The OTC, consisting of 12 Northeastern states, was created by Congress and charged with seeking means of reducing urban ozone and resulting smog. The 1990 Clean Air Act Amendments establish federal ozone standards. Areas violating them are subject to stringent pollution control measures, such as enhanced motor vehicle emissions inspections and emissions offset requirements for industry. The act also requires utilities (coal-fired and otherwise) to reduce nitrogen oxide (NOx) emissions. These emissions reductions are subject to "reasonably available control technology," or RACT.

CEED representatives suggested that these critical ozone transport issues are being reviewed by OTAG under threat of litigation by the EPA (under Sections 110 and 126 of the federal Clean Air Act). The commission was advised that OTAG's objective is a 32-state compact (which would include Virginia) establishing NOx emissions standards that will exceed the emissions control standards imposed by the 1990 Clean Air Act Amendments and will likely cost utilities and others billions of dollars over and above compliance costs associated with the 1990 amendments. CEED representatives also suggested that the standards may have negligible effects in proportion to their enormous cost and their impact on states' economies.

The commission voted to express its concern about these developments to the Virginia congressional delegation.



The Honorable Frank W. Nolen, *Chairman*  
Legislative Services contact: Arlen Bolstad

## **SJR 352: Select Committee To Study Educational Technology Funding**

*July 26, 1995, Richmond*

### **1994 Activity**

Originally established by SJR 157 of 1994, the select committee consists of members representing the Senate Committee on Finance, the House Committee on Appropriations, and the Commission on Equity in Public Education. During the 1994 interim, the select committee examined the educational technology programs of other states, other states' funding of educational technology, including revenue streams and distribution mechanisms, the extent of access to educational technology in the Commonwealth, and optimum ways to cooperate in utilizing technology in schools and communities.

Over the last several years, state educational technology grant initiatives for library automation have greatly increased Virginia schools' access to educational technology. In addition, the 1995 budget directs the Board of Education to dedicate over \$10.8 million from the Literary Fund to provide first-year debt service payments for an equipment grant program through the Virginia Public School Authority, in an amount estimated at \$46.5 million, for the purchase of educational technology equipment.

### **1995 Plans**

In 1995, the select committee plans to evaluate ways to leverage cooperative private and public educational technologies, which encourage business, community, local school board, and local government interaction, and to review the revised Six-Year Plan for Technology developed by the Department of Education, including costs, implementation strategies, and potential effects on at-risk children and economically stressed and rural school divisions. The select committee will also study technology training, access to the Virginia Public Education Network (Va.PEN) and Internet, and other matters related to improving access to and the benefits of educational technology.

### **Va.PEN**

The select committee's first 1995 meeting concentrated on access to Va.PEN, the revised six-year educational technology plan for Virginia and its costs, and demonstrations of various educational technology. The meeting, which was held at the Virginia Department of Education, opened with three local educators—an elementary school teacher, a librarian, and an assistant principal—expressing their concerns about access to Va.PEN and the Internet through the 1-800 number. In spite of a 50-percent reduction in 1-800 access through freezing new student accounts, one hour per day limitations, and limiting 1-800 service to areas without local access, the 1-800 costs have escalated (from \$200,000 in 1992-1993 to \$650,000 in 1994-1995) and busy signals are frequently encountered. Therefore, severe limitations on the 1-800 number access have been initiated for the coming school year.

In response, Department of Education (DOE) administrators stated that all Virginia school administrators and schools will have access to Va.PEN this year. Department officials noted that 1-800 service is costly and may no longer be responsive to users' needs. The department addressed the local educators' concerns by unveiling its proposed expansion of Va.PEN through use of the Department of Health's (DOH) network. Piggybacking on the DOH network would provide local access to more than 90 percent of Virginia's schools. The remaining schools would be provided 1-800 access. This proposal, which is currently under review by the DOH and DOE staffs, would reduce the number of users per line (from 180 to 40), while increasing the number of simultaneous users (from 100 to 500). The per line costs would decrease from approximately \$8,000 per line per year to approximately \$2,000 per line per year. The DOE hopes to resolve the details of this proposal by September 1995 and to begin implementation in October 1995.

## Six-Year Plan

In keeping with the select committee's 1995 objectives, the newly developed Six-Year Educational Technology Plan for Virginia was reviewed. The plan includes 12 recommendations structured to address five goals:

- To integrate voice, video, and data networks capable of providing communications at the school, division, state, and national levels.
- To improve teacher and student access to technological resources in classrooms and other learning centers through equitable distribution of grants, equipment, software, and technical assistance.
- The Department of Education and school divisions will establish training programs and incentives to enhance teaching and learning through the use of educational technologies.
- Educators and administrators will have access to technologies that provide for the full maintenance, reporting, and analysis of student and administrative data.
- A system of on-going evaluation will be established for state and local school assessment of technology applications, teacher preparation, and training.

The 12 recommendations relate to upgrade and retrofit of facilities and mechanical systems, network access, upgrading of the Virginia Educational Satellite Network (VSEN), classroom availability of multimedia microcomputers, home access to educational technology for students, technology education, training and professional development for instructional personnel, implementation of administrative/management information systems, and evaluation.

Based on May 1995 data and the caveat that costs may vary because of local spending, apparently decreasing costs, and negotiated discounts, the funding framework for the educational technology plan projects the total implementation cost estimate to be \$553.6 million, or approximately \$90 million per year over a six-year period. Because of the enormity of the cost estimates for comprehensive implementation, the DOE has developed a priority spending/limited spending alternative. The select committee has requested the DOE to keep the Finance and Appropriations Committees' staffs current on their budget submissions.

## Next Meeting

The next meeting of the select committee has been set for October 2 at 1:00 in House Room C of the General Assembly Building in Richmond. At this meeting, the select committee will focus on the telecommunications industry and public/private interaction.



The Honorable Hunter B. Andrews, *Chairman*  
Legislative Services contact: Norma E. Szakal

## Virginia Small Business Commission

*August 22, 1995, Richmond*

The Virginia Small Business Commission, established by the 1995 General Assembly following two years of study by legislative subcommittees, held its inaugural meeting to receive information about issues of concern to Virginia's small businesses.

Chairman Walker outlined the importance of small business to Virginia's business community. Emphasizing that over 60 percent of Virginia's businesses have fewer than five employees, he noted that businesses with fewer than 100 employees provide jobs for over half of Virginia's work force. Today, small businesses are acutely challenged in an economy trending toward larger and larger companies. Because of their size, small businesses frequently encounter difficulty acquiring capital, developing effective marketing strategies, utilizing technology, and providing competitive health care benefits. These challenges led the General Assembly to conclude that a permanent legislative commission was needed to provide an effective forum for small business.

## Needs Assessment

The chairman of Virginia's Small Business Advisory Board reported that the Department of Economic Development's Small Business Development Center (SBDC) and the board will be conducting a statewide small business needs assessment. Using focus group methodology, this needs assessment was last conducted in 1989.

The 1995 update will likely take an approach similar to the 1989 survey and examine both positive and negative attributes of the current business climate. Some of the positive attributes examined in 1989 included (i) pro-business attitude of government, (ii) quality of life, (iii) geographic location, and (iv) the availability of highly skilled workers. Negative attributes examined were (i) the shortage of affordable housing in certain areas, (ii) high local business taxes, (iii) perceived inadequacy of public schools, and (iv) the high cost of health and liability insurance. It is expected that the survey will be completed in early 1996.

## Department of Economic Development

The commission was updated on activities of the SBDC, a \$1.8-million program administered by the Department of Economic Development (DED) and funded by federal grant dollars from the federal Small Business Administration (SBA) and the Commonwealth's general fund. Additional funding comes from a variety of local business organizations.

## SBDC

Twenty-one SBDC locations throughout Virginia provide free counseling and training seminars to business owners and individuals. Special emphasis programs offered by SBDC locations include programs focused on female entrepreneurship, pollution prevention assistance, and international exports. According to DED, the SBDC's economic impact has been significant. Since its inception, it has counseled nearly 40,000 businesses and fostered over \$250 million in capital investment.

Of particular concern to commission members was the possibility of federal funding cuts for this program. Federal funding through the SBA provides all but \$250,000 of the SBDC's \$4 million annual budget. DED representatives suggested that while the program will probably be cut back somewhat, cuts may be in the range of 5 to 10 percent. Commission members also expressed interest in learning more about the rural-urban distribution of SBDC resources and the level of women-owned businesses throughout the Commonwealth.

## Financing Authority

The Virginia Small Business Financing Authority is another program aimed at providing Virginia's businesses with financing needed for growth and expansion. Established by the General Assembly in 1984, the authority's administration is coordinated by DED. Currently, the authority oversees a number of financing programs, including its industrial development bond and umbrella bond programs, and a child day care financing program. The child day care program provides loans up to \$15,000 for infant care equipment, playground improvements, and minor renovations to day care facilities. Commission members expressed particular concern about the day care financing program and whether it will be continued. Overall, the authority's economic impact was summarized as having provided \$181 million in financing, creating nearly 15,000 jobs, and generating (according to DED estimates) \$13.7 million in annual state sales and personal income tax revenues.

## NASA Technology Transfer Program

The commission received an extensive presentation from the director of the NASA Langley Research Center's Technology Applications Group. The commission learned that NASA is targeting small business as a vehicle for commercializing high technology products developed at Langley. A Chesapeake company, for example, is currently licensed to use a NASA patent in the production of missile cases—a product worth \$4-5 million per year to the company. The center's representative told the commission that the best way to support the NASA technology transfer program is through continued support of the Center for Innovative Technology (CIT), which was cited as the primary link between the NASA program and small businesses in Virginia.

## Microenterprise Initiatives

The Department of Housing and Community Development reviewed for the commission the status of the Virginia Enterprise Initiative, a program aimed at providing start-up capital to low- and moderate-income individuals who want to start businesses but would probably not qualify for conventional business loans. The program has four components: training, technical assistance, micro loans and follow-up support. It was developed with the assistance of the SBDC, which will also furnish some of the training support.

## Public Hearings

Chairman Walker announced that the commission will be conducting a series of public hearings around the state in the upcoming months. The hearings will provide an opportunity for small businesses to advise the commission on issues such as the impact of existing state law and proposed legislation on small business and the effectiveness of Virginia's small business assistance programs. Two hearings are scheduled for Norfolk and Northern Virginia on October 17. An additional hearing will be held in Roanoke on October 31.



The Honorable Stanley C. Walker, *Chairman*  
Legislative Services contact: Arlen K. Bolstad

## Subcommittee Studying Procedures to Identify and Fund State Mandates on Local Governments

*August 22, 1995, Richmond*

At its organizational meeting, the subcommittee examined current Virginia statutes and procedures affecting mandates on local governments, identified local mandate concerns, and heard comments from representatives from the Virginia Municipal League (VML) and the Virginia Association of Counties (VACo) on how to improve the mandate assessment process.

## Mandate Concerns

Since the early 1980s, the Joint Legislative Audit and Review Commission (JLARC) has periodically examined the impact of state mandates on local governments and local financial resources. The most recent report (1993) concluded that state and federal mandates on local governments are extensive, affecting most areas of local government activity. Based on information reported from state agencies, JLARC concluded that over two-thirds of those mandates originated at the state level. The remaining one-third were based on federal initiatives. As of April 1994, 415 mandates, mostly affecting health and welfare, educa-

tion, and public works, were identified by the Commission on Local Government. The commission is required to prepare, and annually update, a catalog of state and federal mandates imposed on local governments, including, where available, a summary of the fiscal impact of new mandates.

As reported by JLARC, localities often cite five broad-based concerns with mandates: cumulative impact of mandates, the lack of local input into the development of mandates, the lack of flexibility in implementation of mandates, overlapping mandates, and inadequate funding to meet mandates. In addressing some of these concerns, Virginia has enacted several procedures to increase awareness of the impact of mandates on localities.

### Review of Existing Mandates

Agencies are required under § 2.1-7.1 of the Code to assess mandates on local governments, identified by the 1993 catalog of mandates, to determine which mandates, if any, may be altered or eliminated without interruption to local service delivery and without undue threat to health, safety, and welfare. Any mandates imposed after the publication of the 1993 update are subject to assessment once they have been in effect at least 24 months. The Commission on Local Government serves as the coordinator of this project, which is expected to complete its initial assessment by June 30, 1996.

Executive Memorandum 15-94 establishes a similar process for the assessment of existing regulations. Agencies are required to evaluate all regulations within their purview, identify any that are based on state or federal mandates, and justify those that exceed the mandates' minimum requirements. The Department of Planning and Budget serves as the coordinator for this process and submits the agencies' recommendations for alteration or elimination to the Governor.

### Review of Proposed Legislation and Regulations

As provided in § 30-19.03, the Division of Legislative Services (DLS) identifies and refers to the Commission on Local Government all introduced bills that are suspected of creating an additional net expenditure on localities. A 1995 amendment to this section provides that these bills must be filed on or before the first day of the legislative session. The Commission on Local Government is required to prepare a fiscal impact statement for any bill referred to it under this statute. To carry out this responsibility, the commission has established a local network, comprised of approximately 30 localities designated by VACo and VML. This core group receives copies of the bills identified by DLS and submits its evaluations to the commission for review. A final analysis by the commission is filed with the Clerk of the House for distribution to appropriate committees and members of the General Assembly. In 1995, 19 local fiscal impact statements were submitted to the Clerk of the House of Delegates by the Commission on Local Government.

A process for assessing proposed regulations, created by Executive Order 13-94, requires agencies to identify proposed regulations that are based on state or federal mandates and report any disparity between the intended impact of the legislation and the proposed regulation. In 1995, the General Assembly amended the Administrative Process Act to require the Department of Planning and Budget to include estimated fiscal impacts on localities of proposed regulations and potential funding sources to implement and comply with such regulations. Additionally, under § 9-6.14.8.1 of the Code, state agencies that propose new regulations that would impose mandates on local governments statewide must consider, where appropriate, pilot testing them first in a limited number of representative localities to determine their effectiveness or impact before full implementation.

### Mandate Relief: Gubernatorial Suspension of Mandates

Under § 2.1-51.5:1, the Governor may suspend for up to one year any administrative mandate imposed on a local government, if the locality can demonstrate fiscal stress that could be alleviated by the suspension. (Mandates administered by the Department of Education are excepted.) To date no locality has sought relief from a mandate by utilizing the procedures of this section.

### Comments from VML and VACo

VML urged the subcommittee to consider expanding the definition of mandates to include legislation that affects how a locality provides or administers a program. To improve the quality of the fiscal estimates, VML also proposed expanding the list of evaluators to include agencies or entities that will be directly affected by the legislation. For example, school divisions should be included in all educational bill assessments. Another method to increase the accuracy of the fiscal statements was proposed by VACo, which suggested that before a bill that has an impact on local governments becomes law it should undergo an extensive one year review by the Department of Planning and Budget.

### Issues

The following issues were identified for further examination by the subcommittee:

- What procedures can be developed to ensure that local governments have the opportunity to raise their concerns and challenges to unfunded or overly burdensome mandates prior to and after their enactment?
- Does the current definition of mandate need to be modified to reflect the various levels of commitment by the state and local governments to providing certain services and programs? Should assessments be based on intangible factors such as a locality's desire to provide the service regardless of the state's financial involvement?

- What improvements to the fiscal impact statement process can be made to improve the quality, timeliness, accuracy, and acceptance of the impact projections?
- What procedures can be implemented to identify and assess bills, amendments, and substitutes suspected of having a fiscal impact on localities?
- Should Virginia adopt a mechanism to reimburse localities for unfunded mandates, as several states have enacted or adopted as part of their constitutions?
- Can other broad-based policies be adopted to provide localities with alternatives to meet the fiscal demands of mandates, such as equalizing city/county taxing authority, increasing the taxing authority to localities that are given new service responsibilities, or developing state and local funding goals for specific program areas identified as problematic (e.g., environmental protection)?

## Future Meetings

For the subcommittee's next meeting on October 12 staff was directed to summarize the laws and practices adopted in other states.



The Honorable W. Roscoe Reynolds, *Chairman*  
Legislative Services contact: Ginny Edwards

## HJR 656: Funding for Public Transportation in Hampton Roads

*September 12, 1995, Hampton*

The third meeting of the joint subcommittee featured reports on the status of three Major Investment Studies addressing public transportation projects in Hampton Roads. The Hampton Roads Planning District Commission also presented its report on the public transportation funding and allocation process in Hampton Roads.

## The MIS Process

The federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) authorized higher levels of funding for transit than any previous federal highway program, while requiring greater coordination of highway and transit planning to provide for a more efficient surface transportation system intended to meet local needs. To implement ISTEA's planning requirements, a Major Investment Study (MIS) is conducted to develop information about the consequences of alternative transportation investment strategies in a transportation corridor. The MIS process is intended to result in improved trans-

portation decisions, consistent with land use, environmental considerations, transportation system performance, and community resources. Public participation involving a broad range of interests is a major component of the MIS process. Elements of an MIS include establishing goals and objectives, selecting a priority corridor, developing a statement of purpose and needs, and generating and analyzing alternatives.

## CSX Corridor MIS

The City of Newport News has initiated an MIS to establish feasible alternatives leading to the development of a multi-modal transportation system on the Virginia Peninsula. Partners in the MIS include PENTRAN, local governments in the area from James City County to Hampton, and state agencies. Federal funds account for 80 percent of the one-half-million-dollar cost of the current phase of the study, with the balance being provided by the Virginia Department of Transportation and Department of Rail and Public Transportation.

The corridor to be addressed by the MIS encompasses the path of the CSX railway line from Williamsburg to the Monitor-Merrimac Bridge-Tunnel, with a spur to downtown Hampton. Over the next 20 years, the number of vehicle miles traveled in the area is projected to increase approximately 2.6 percent annually, while road mileage is expected to grow at a rate of 1.1 percent annually. The lack of undeveloped land and environmental issues make widening existing roads on the Peninsula very difficult. Consequently, the provision of light rail or other public transit along this corridor may be the optimal way to reduce congestion and address air quality concerns.

The first phase of the CSX Corridor MIS, which is expected to take one year, is underway. A regional advisory committee, consisting of representatives of federal and state agencies, public transportation providers, citizens, regional commissions and authorities, local governments, and industry and business, will identify issues and goals and review and comment on the scope of the consultant's study and any alternatives identified.

## Norfolk-Virginia Beach Corridor MIS

The Tidewater Transportation District Commission is heading an MIS that is examining strategies to address traffic congestion in the Norfolk-Virginia Beach Corridor. The study area runs along the Route 44/Interstate 264 corridor from Atlantic Avenue in Virginia Beach to downtown Norfolk, with a connection to the Norfolk Naval Base. The MIS process, which is about half completed, has generated a set of objectives and goals.

The study has identified three final alternatives. The first is a no-build congestion management system (CMS) relying on car pooling, park-and-ride lots, ride sharing, queue bypasses, and HOV lanes. The second is an enhanced bus system, including separate busway lanes. The third is a light rail transit system along the Norfolk Southern Railway right-of-way. Any light rail transit system would be built in phases over several years and

would depend on bus service to feed the trunk lines. Over the next three months, the project advisory committees will examine these alternatives, and recommendations are expected early next year. The Hampton Roads Planning District Commission, which serves as the region's Metropolitan Planning Organization (MPO), will be involved in approval of any recommendations.

### Hampton Roads Crossing MIS

Under ISTEA, demonstration funds were allocated to investigate innovative methods of relieving congestion at the I-64 Hampton Roads Bridge-Tunnel. The MIS for the Hampton Roads Crossing should be completed next year. An analysis of congestion problems at the Hampton Roads Bridge-Tunnel revealed that the number of delays of 15 minutes or more, and the length of delays, increased greatly between 1993 and 1994. Over 40 potential solutions will be reviewed during the course of the MIS process, and all include a public transportation component. Three options for the location of a third crossing have been identified, including corridors parallel to the Hampton Roads Bridge-Tunnel, parallel to the Monitor-Merrimac Bridge-Tunnel, and tangential off the Norfolk Naval Base tying into the Monitor-Merrimac Bridge-Tunnel area.

Members of the joint subcommittee noted that the three MIS projects offer the prospect of a light rail system stretching from Williamsburg through the Peninsula, across Hampton Roads, to Norfolk and Virginia Beach. The synergies of such a system would have the potential to spur economic development throughout the region while alleviating traffic congestion and addressing the region's status as a nonattainment area under the Clean Air Act.

### Funding Public Transportation

At the request of the three regional public transit providers (Tidewater Transportation District Commission, the Peninsula Transportation District Commission, and James City County Transit), the Hampton Roads Planning District Commission analyzed the public transportation needs in Hampton Roads relative to available funding. Total operating and capital expenses for public transportation in the region from fiscal years 1994 through 2003 will be \$730 million. Many of the expenses will be in replacing equipment, expanding service into unserved areas, and initiating a light rail system on the southside.

The needs identified by the public transit providers cannot be met without reliable funding. If local funding remains constant over the next 10 years, and if the light rail project is built on southside, there will be a net deficit of approximately \$116 million in funding the anticipated expenses of the public transit systems. If the light rail project is not built, the estimated deficit of the three systems would be \$31 million. Under both scenarios, the situation would be worse if federal operating assistance is eliminated, as has been proposed in Congress.

The ability of the region's public transportation agencies to provide basic service, or expand future service, is directly related

to the amount of local financial support available. The amount of federal and state funding is contingent on the assumption that local governments will be able to produce the necessary local match. If they cannot, the levels of funding will be reduced, and the ability of transit providers to implement their programs will be greatly reduced.

Several strategies were identified to obtain the additional funding for public transportation that will be needed to implement even modest improvements to the systems. The region's transit providers may consider the recommendation of the Select Subcommittee established by SJR 240 (1993). The select subcommittee proposed an alternate formula for distribution of money in the Transportation Trust Fund that would treat each transit operator equally and reward efficiency and service expansion. Other financing strategies suggested for exploration in the PDC's report include earmarking income from a state-imposed tax, such as registration or license fees, income tax, or tire disposal tax, for public transportation. Cross-border leasing and certificates of participation are mentioned as two new financing ideas that may meet less resistance than a tax or fee. It was also noted that the Hampton Roads region does not have the same legal power to levy a gasoline tax to finance public transit that is in place in Northern Virginia.

### Advisory Committee

Delegate Crittenden announced her appointments to an advisory committee, which was established to advise the joint subcommittee and to provide a forum for input by localities throughout Hampton Roads. The joint subcommittee will hold public hearings on October 23 at Hampton City Council Chambers and October 24 at Brown Hall Auditorium at Norfolk State University.



The Honorable Flora D. Crittenden, *Chair*  
Legislative Services contact: Franklin D. Munyan

## Commission on Early Childhood and Child Day Care Programs

*September 13, 1995, Norfolk*

The commission is charged with encouraging the availability of quality affordable and accessible early childhood and child day care programs and also serves as a forum for the continuing review and study of early childhood and child day care programs and services.

### Norfolk's NEET Center

As part of its continuing interest in child care and welfare reform, the commission heard about Norfolk's efforts within the last two years to prepare for welfare reform. Because day care is expensive but essential to successful welfare reform, innova-

tive planning is necessary. At the Norfolk Education, Employment and Training Center (NEET Center), social services contracts with a community action agency to provide on-site child care while AFDC parents receive employment training and experience. Head Start funds are available for only a portion of the day and for only nine months of the year. Because longer hours and a summer program are required for day care, social services also contracts with the community action agency to provide extended hours care and summer care. Funding for the day care is partially Head Start and partially from social services. Some AFDC mothers are teacher assistants, and one became a bus driver and later a registered day care provider in a low income area.

### Military Day Care

The child development program administrator from the Little Creek Naval Amphibious Base described the military's child care system. Each branch of the armed forces has a similar system. A 14-module self-study training program has been developed for both center and family care. Although providers must be 18 years old and have a high school degree, the average provider is 35 years old with an associate degree. There is upward mobility for center providers as they complete modules. When the provider's family relocates to another area with a child care center, the trained provider can enter center employment at the achieved level if there is an opening.

Family day care is provided by military spouses in military housing. There are six children per provider; they are subject to inspections; and they participate in the USDA food program. Home providers are required to have their own insurance and set their own hours and fees. Families who receive services are contractually obligated to pay the agreed-upon amount and the provider receives a two-week vacation per year.

### Early Childhood Center

The commission toured the Berkley/Campostella Early Childhood Education Center, which is funded by Norfolk Public Schools, Title I of the Improving America's Schools Act, and the Virginia Preschool Initiative for At-Risk Four-Year-Old Children. Using this combination of funding sources, the center links educational, social, health care, and child care services to address the needs of young children (minimum age is three) and their families. There is a six-hour school day, breakfast and lunch are served, and there is before- and after-school care. Parents are actively involved in their child's education, and the program includes adult education and workshops on a variety of topics, including parenting and job preparation skills.

### Virginia Plan

The president of the Virginia Association for Early Childhood Education explained the Virginia Plan for Professional Development, which is a plan for training the Commonwealth's child care and early childhood education work force. She stated that many other states have similar plans and that research links

provider training to positive developmental outcomes for children. The Virginia Plan, which took several years to complete, was developed by representatives of numerous groups interested in children.

The commission was urged to use the Virginia Plan in considering how to organize child care for welfare reform. Low-income children, who are at greatest risk for school failure, benefit significantly from receiving child care by persons who have chosen child care as their work and have specialized knowledge and training in the care of children. Much of the training proposed by the plan is appropriate for family child care providers. Because caring for the children of others requires increased skills, the training would be useful to those AFDC recipients who choose child care as their work, would improve their own parenting skills, and would increase the likelihood that they continue to receive training in the future.

Several components of the Virginia Plan are underway at this time and several are on hold. The plan is funded by the Child Care and Development Block Grant, which is administered by the Council on Child Day Care and Early Childhood Programs. In response to questions about continued funding of the Virginia Plan, the council's executive director stated that all members of the council are newly appointed and will be reviewing ongoing programs, including the Virginia Plan, to ensure that they are inclusive of all populations in Virginia.

### Regulating Day Care

The chairman of the Child Day-Care Council, which is responsible for promulgating regulations for child day centers, reported that the council feels that a comprehensive revision is necessary to make the regulations more understandable and less intrusive and burdensome. Currently identified areas in need of revision include staff qualifications, record keeping requirements, playground requirements, and programming. The council is awaiting the Governor's approval of this evaluation as well as a notice of intended regulatory action so the revision can begin. The public may submit written comments, and there is a public comment period at each council meeting.

The commissioner of social services reported that the State Board of Social Services, which is responsible for promulgating family day regulations, will conduct a comprehensive review of those regulations. The notice of intended regulatory action is expected to be issued in early 1996.

The commission expressed an interest in monitoring the revision process and public comments received for both sets of regulations, and it was agreed that this information will be supplied to the commission.

The commission expects to hold a November meeting in Northern Virginia.



The Honorable Stanley C. Walker, *Chairman*  
Legislative Services contact: Jessica F. Bolecek

## SJR 267: Joint Subcommittee Studying Ways to Reduce Emissions From Coal-Carrying Railroad Cars

September 9, 1995, Roanoke

Members of the joint subcommittee were briefed by railroad and coal industry representatives participating in a program designed to reduce the amount of coal escaping from railroad cars. The panel also heard from individuals who remain concerned about coal dust emissions.

### Industry Initiative

At its last meeting, in December 1994, the joint subcommittee learned of a pilot project between Norfolk Southern Railway Company (NS) and Consolidation Coal Company (Consol), Virginia's largest coal producer. The agreement called for the companies to jointly determine (i) the shaping or "profiling" of coal as it is loaded into the cars and (ii) the use of chemical bonding agents on selected kinds of coal deemed to be particularly dusty. A Consol representative told the panel assembled in Roanoke that the control techniques used in the project, which began in the summer of 1994, were found to effectively mitigate much of the dusting. The companies have since increased the amount of coal being treated to about 10 million tons, or 100,000 cars (on an annualized basis), and have plans to continue the program.

According to an NS official, approximately 25 million tons of the coal it ships annually (20 percent of its total haul) have been found to be dusty, or in need of treatment, up from an earlier estimate of about 10 million tons. The joint subcommittee learned that additional coal producers were entering into formal agreements with NS to reduce dust emissions. The railroad and participating coal companies are sharing the cost of profiling and crusting the coal, which is estimated to cost five to six dollars per car—roughly the same amount of money saved through reduced coal loss.

Panel members were told that NS and U.S. Steel Mining Company began treating dusty coals this June. Indications are that the program is succeeding, as evidenced by the reduction in complaints to the railroad's toll-free telephone hotline from 24 during the second quarter to nine thus far in the third quarter of 1995.

Other coal producers (Herndon, Pittson, Peabody), working in conjunction with Norfolk Southern, are expected to implement coal dust containment programs in the near future, and testimony indicated that the railroad and coal companies will be treating nearly 100 percent of the problematic coals by June of 1996.

### Citizen Comments

Two Southwest Virginia residents and Altavista's assistant town manager told the joint subcommittee that coal dust continues to be a concern, although it was noted that recent improvement in the situation was evident. Written testimony submitted to the panel by several Hampton Roads residents suggested that coal dust emissions remain a significant problem in their area.

### Next Meeting

The joint subcommittee has scheduled its next meeting for December 14 in Richmond to review the progress of the industry's program during the fall, when NS and more coal producers are expected to begin implementing coal dust control techniques.



The Honorable Elliot S. Schewel, *Chairman*  
Legislative Services contact: Mark C. Pratt

## HJR 502: Joint Subcommittee Studying the Child Protective Services System in Virginia

August 29, 1995, Roanoke

The subcommittee met with approximately 30 representatives from the child protective services (CPS) program in central and southwest Virginia and three juvenile and domestic relations district court judges and held a public hearing.

### CPS Staff

CPS staff advocated the adoption of a two-track system in which intake calls would be screened into two categories—cases to be investigated and cases in which services would be offered and provided. Currently, because of legal mandates and state policy, more resources are devoted to investigation than to service delivery.

Among other concerns, licensure, certification, or accreditation of CPS workers was generally endorsed, both to increase the level of expertise and to enhance community perception about the professionalism of CPS workers. According to CPS staff, suggestions that CPS be turned over to law enforcement miss the fundamental point of CPS, which is a nonpunitive system of protecting children and offering services. CPS representatives do not object to outside review of CPS work, but cautioned that any outside reviewer would have to be knowledgeable of CPS law and policy. The importance of having a good relationship with other community agencies, particularly law enforcement, was noted. Finally, there was extensive discussion on the purpose of the central registry. Originally an internal tracking system for CPS, it has expanded to be used for employment checks.

## Juvenile Judges

The three juvenile judges discussed the suggestion of a Fairfax juvenile and domestic relation district court judge that if a juvenile or circuit court judge determines that a child is not abused or neglected, that adjudication should dispose of the administrative appeal. The judges noted that the administrative appeal, juvenile court hearing, and criminal prosecution serve different purposes and that the disposition of one should not necessarily affect the other.

The judges discussed several other issues, including the courts' need to retain the flexibility they now have to make rehabilitative rather than adversarial findings. Foster parent recruitment and training need to be increased, and foster parents need training on including the natural parent in the child's life. There is a lack of resources to allow parent/child contact when a child is removed from his parents. Other states have established supervised visitation centers with night and week-end hours.

The issue of child abuse and neglect allegations during a custody dispute is a difficult one, and each case must be examined individually. Although a person making a false allegation can be charged with perjury, this rarely, if ever, happens.

## Public Hearing

Twenty individuals expressing a variety of views testified at the public hearing. Several persons who benefited from receiving protective services as children proclaimed the value of those services but indicated that there were numerous interventions before they were removed from the abusive home. Increased training for CPS workers was advocated, along with strengthening efforts to retain trained workers. CPS was urged to conduct more complete investigations and to interview witnesses other than the parents.

Consumers of Campbell County's Family Educator Project, which provides home-based treatment services supplemented by parent education classes, testified as to its effectiveness in increasing parenting skills. Speakers also endorsed studying a two-track system, certification of CPS workers, and lowering the standard for a founded case of abuse/neglect from "clear and convincing" to "a preponderance of the evidence."

It was also pointed out during the public hearing that even if a case is unfounded, the allegation of abuse is harmful to the alleged perpetrator and steps need to be taken to reduce the number of intentional false allegations. Among the suggestions from various speakers:

- that CPS has too much power, which it routinely abuses;
- that CPS should have no ex parte communication with the court and no contact with the accused without permission of the accused's attorney;

- that law enforcement should perform CPS investigations and social workers should promote family support;
- that by investigating cases where no abuse occurred, CPS workers neglect children who really are abused;
- that CPS laws are unconstitutional and lack due process; and
- that founded cases are retained on the central registry for much longer than necessary and that only serious cases should be entered on the registry.

## Future Meetings

The subcommittee will meet in Richmond on November 20 and December 12.



The Honorable Alan E. Mayer, *Chairman*  
Legislative Services contact: Jessica F. Bolecek

## HJR 592: Joint Subcommittee Studying the Efficiency and Effectiveness of the Escheat Laws

*August 7, 1995, Richmond*

The escheating of property is the reversion of property to the state in the absence of legal heirs or claimants. HJR 592 directs the joint subcommittee to study the efficiency and effectiveness of current escheat law to identify changes needed to effect maximum benefits for all participants.

In its first meeting, the joint subcommittee began its work by hearing testimony from the Unclaimed Property Division of the Department of the Treasury, the agency responsible for administering the escheat laws. The division outlined those issues it believes impede the efficiency and effectiveness of the escheats process and should be examined by the joint subcommittee. The issues to be examined include, but are not limited to, the following:

- The liability exposure risked by the Commonwealth on unattended real estate during the time the parcel is in the escheat process.
- No title search is required by the Commonwealth prior to sale of the property.
- The period between the time the inquest is held escheating the property to the Commonwealth and the time the property is sold is at least 14 months.
- The escheat process is sometimes used interchangeably with the judicial sale process or to settle estates where the heirs cannot agree.
- There is no confidentiality section, fee limitation section, or disclosure requirement in the escheat law to prevent private locator firms from claiming on behalf of owners or heirs. These firms are charging exorbitant fees without disclosure that the claim payment is a free service from the Commonwealth.

■ In some localities, it is difficult to find someone to accept an escheator appointment, or the escheator does not perform his duties even after numerous requests by the Division of Unclaimed Property. There are no penalties associated with non-performance of duties by an escheator.

■ There are 136 escheators in the Commonwealth, one for each locality. Each escheator faces replacement with every administration. It is a continuing task to keep new escheators informed of their responsibilities and provide training.

■ There is a five-year statute of limitations period for which owners, heirs, or creditors can come forward to claim the remaining net proceeds from a sale. This payout has a negative impact on the Literary Fund.

The Division of Unclaimed Property will present possible solutions to all issues raised at the initial meeting when the joint subcommittee meets again on September 29 in Richmond.



The Honorable James F. Almand, *Chairman*  
Legislative Services contact: Pamela Catania

## HJR 487: State/Local Government Responsibility and Taxing Authority Commission

*August 15, 1995, Charlottesville*

The second meeting of the commission was held during the Local Government Officials' Conference. A representative from the Joint Legislative Audit and Review Commission (JLARC) presented an overview of the findings and recommendations resulting from State/Local Relations and Service Responsibilities (Senate Document No. 37), a 1992 JLARC study.

### JLARC Study

The study examined the service delivery structures in the context of changes the Commonwealth has undergone in the past several years. The purpose of the study was to identify ways to improve state and local relationships and to identify whether the responsibility for any services needed to be changed. While overall the study indicates the Commonwealth's governmental structure is sound, service responsibilities of the Commonwealth and its localities have evolved over the years in a somewhat piecemeal fashion and have not always kept up with changing social and economic conditions. The report also substantiated officials' concerns that there is now an imbalance between services provided and revenue-raising ability.

The areas of service and funding responsibilities on which the report focused were transportation, education, human services, environmental protection, administration of justice, and general administration. In examining these responsibilities, broad criteria were used, including efficiency/economy of scale,

effectiveness, equity, fiscal accountability, responsiveness to the public, and flexibility.

Finally, with regard to the adequacy of local resources to fund the services, the Commonwealth's taxes are generally lower than surrounding states, while local taxes are higher. This indicates that as additional service responsibilities are assigned to local governments, additional use of revenue resources may need to occur at the state level.

### Next Meeting

The next meeting of the commission will be on October 9 in Virginia Beach during the Virginia Municipal League Conference, at which time a public hearing will take place.



The Honorable Donald S. Beyer, Jr., *Chairman*  
Legislative Services contact: Joan E. Putney

## SJR 369/HJR 616: Joint Subcommittee to Study Incentives to Promote Economic Development in the Commonwealth

*August 15, 1995, Richmond*

The joint subcommittee began its examination of the incentives currently used by the state and its recommendations on the creation of new incentives and the possible development of guidelines regarding the use of incentives.

### Background

Secretary of Commerce and Trade Robert T. Skunda, who also serves as a member of the subcommittee, provided some background information about the study resolutions that led to the creation of this subcommittee. As part of the *Opportunity Virginia* process, where over 800 business and community leaders convened to draft the state's first comprehensive economic development strategic plan, it became clear that a thorough examination of incentives was necessary. Because the use of incentives has received a great deal of attention over the past five years, particularly following the \$300 million package promised by Alabama to attract Mercedes-Benz, it was determined that the state needed to examine its existing incentives to ensure that they were effective enough to allow the state to compete globally while protecting the state's fiscal integrity.

The secretary reviewed the five general categories of incentives outlined in the *Opportunity Virginia* plan, which were seen as organizing principles for the creation or enhancement of incentives that will help Virginia achieve its job creation and investment goals. These categories are work force training

incentives, the Governor's Economic Opportunity Fund, specific tax credits and exemptions, business financing programs, and industry-specific grants.

## Incentives

The director of the Department of Economic Development gave a brief overview of incentives and the reasons why incentives are used by states as part of their economic development efforts. The cost of incentives per job created has steadily risen since 1980. For example, the incentives offered to attract Nissan to Tennessee worked out to about \$11,000 per job. This is in contrast to the \$187,000 per job figure for Mercedes-Benz in 1993. The director stated that incentives should be targeted at promoting growing industries and that safeguards must exist to ensure that companies follow through with delivering the promised jobs and investment.

Traditional incentives offered by states include corporate tax reductions, property tax abatements, sales and inventory tax exemptions, various forms of loans and grants, infrastructure improvements, and skills training and retraining. Incentives cannot, however, repair a poor business climate or offset a geographic or physical liability.

## Governor's Fund

The director of administration for the Department of Economic Development provided a brief history of the success of the Governor's Economic Opportunity Fund, which provides grants to localities, not companies, to facilitate the development of infrastructure to support economic development efforts. Since the fund was created in 1993, 74 projects, evenly divided between urban and rural areas and existing and new companies, have received support. To date, \$22,462,950 has been spent to create 14,439 jobs and investment of \$1,590,499,195, with an average cost to the state of \$1,555 per job created.

## Enterprise Zone Program

A representative of the Department of Housing and Community Development explained the state's enterprise zone program and the changes made to that program by the 1995 General Assembly. The program provides tax credits and grants to spur community revitalization and economic development in economically distressed areas of the Commonwealth. The incentives now offered include a corporate and real property investment tax credit and a job creation grant for each new job in an enterprise zone. There are currently 31 enterprise zones in the state, and the changes this year allow that number to be increased to 50. Since the first zone was designated in 1984, the program has played a role in the creation of 9,650 jobs and \$690 million in investment at a cost to the state of \$8.9 million in foregone revenue.

## Issues

Several questions were raised about incentives that the members of the subcommittee will address as part of their deliberations. These questions include:

- What level of incentive support should the state offer to promote its economic development goals?
- What guidelines should exist for the use of incentives?
- Should Virginia continue to use performance-based grants?
- What role does regional cooperation and benefit sharing play?
- How does the Commonwealth secure mid-sized projects?

## Next Meeting

For its next meeting, scheduled for September, the subcommittee asked to hear from representatives of the major business organizations in the state about their views on incentives and their use in the Commonwealth. They also expressed an interest in a review of the constitutionality of the incentives offered by Virginia following a recent court decision in North Carolina that struck down some incentives used by localities there.



The Honorable Charles R. Hawkins, *Chairman*  
Agency contact: Chris Lloyd,  
Office of the Secretary of Commerce and Trade

## Deadlines

### Sales Tax Exemption

Chapter 222 of the 1994 Acts of Assembly made substantial changes to the process of obtaining exemptions from the Virginia retail sales and use tax.

First, if a legislator plans to submit any legislation involving an exemption or exclusion from the sales and use tax to the regular session of the General Assembly, he or she must first submit required information to the Department of Taxation by **November 1**.

Second, Chapter 222 states that "no bill providing for a retail sales and use tax exemption shall be drafted . . . by the Division of Legislative Services unless the drafting request is accompanied by the Department of Taxation's preliminary determination." This determination is based on the information that must be submitted by November 1.

The deadline for introduction of sales tax exemption bills—the **first day of the session**—remains the same.

By action of the 1995 General Assembly, two categories of bills now must be filed by the **first day of the General Assembly Session**.

### Local Fiscal Impact

(§ 30-19.03:1; Chapter 743, 1995 Acts of Assembly)

Any bill that mandates an additional expenditure by any county, city, or town must be filed on or before the first day of the session. A mandate has the effect of (i) requiring the performance of a new or expanded service or maintaining an existing service at a specific level, (ii) assuming administrative costs in support of state-related programs, or (iii) furnishing capital facilities for state-related activities. There is an exemption for bills requested by the Governor or "filed in accordance with the rules of the General Assembly."

### Prison Impact

(§ 30-19.1:6; Chapter 462, 1995 Acts of Assembly)

All bills requiring a statement of fiscal impact on the operating costs of state correctional facilities must be filed on or before the first day of the session. A fiscal impact statement is required for any bill that would result in a net increase in periods of imprisonment in state correctional facilities, including those bills that (i) add new crimes for which imprisonment is authorized, (ii) increase the periods of imprisonment for existing crimes, (iii) impose minimum or mandatory terms of imprisonment, or (iv) modify the law governing the release of prisoners in such a way that the time served in prison will increase.

*The Legislative Record* summarizes the activities of Virginia legislative study commissions and joint subcommittees. Published in Richmond, Virginia, by the Division of Legislative Services, an agency of the General Assembly of Virginia.



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 Division of Legislative Services  
 910 Capitol Street, 2nd Floor  
 Richmond, Virginia 23219  
 (804) 786-3591



*The Legislative Record* is also published in *The Virginia Register of Regulations*, available from the Virginia Code Commission, 910 Capitol Street, 2nd Floor, Richmond, Virginia 23219.  
**Notices of upcoming meetings of all legislative study commissions and joint subcommittees appear in the Calendar of Events in *The Virginia Register of Regulations*.**

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# SCHEDULES FOR COMPREHENSIVE REVIEW OF REGULATIONS

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Governor George Allen issued and made effective Executive Order Number Fifteen (94) on June 21, 1994. This Executive Order was published in *The Virginia Register of Regulations* on July 11, 1994 (10:21 VA.R. 5457-5461 July 11, 1994). The Executive Order directs state agencies to conduct a comprehensive review of all existing regulations to be completed by January 1, 1997, and requires a schedule for the review of regulations to be developed by the agency and published in *The Virginia Register of Regulations*. This section of the *Virginia Register* has been reserved for the publication of agencies' review schedules. Agencies will receive public comment on the following regulations listed for review.

## DEPARTMENT OF SOCIAL SERVICES

Pursuant to Executive Order Number Fifteen (94), review of the following regulations shall be completed by June 30, 1996.

VR 615-01-04. Disclosure of Information to Law-Enforcement Officers in the Aid to Dependent Children (ADC) Program.

VR 615-01-05. Collection of Overpayments in the Aid to Dependent Children (ADC) and Refugee Other Assistance Programs.

VR 615-01-06. Protective Payments in the Aid to Dependent Children (ADC) and Refugee Other Assistance Programs.

VR 615-01-12. Persons and Income Required to be Considered when Evaluating Eligibility for Assistance in the Aid to Dependent Children (ADC) Program.

VR 615-01-15. Aid to Dependent Children - Unemployed Parent Demonstration (ADC-UP Demo) Project.

VR 615-01-28. Aid to Dependent Children (ADC) Program - Entitlement Date.

VR 615-01-29. Aid to Families with Dependent Children (AFDC) Program - Disregarded Income and Resources.

VR 615-01-34. Aid to Dependent Children - Unemployed Parent (ADC-UP) Program.

VR 615-01-37. Aid to Dependent Children - Elimination of Monthly Reporting.

VR 615-01-40. Aid to Dependent Children (ADC) Program - Exclusion of Children Receiving Adoption Assistance and Foster Care Maintenance Payment.

VR 615-01-43. Aid to Families with Dependent Children (AFDC) Program - Fifth Degree Specified Relative.

VR 615-01-49. Aid to Families with Dependent Children (AFDC) Program - Disqualification for Intentional Program Violation.

Written comments on the above regulations must be received no later than November 15, 1995, to be considered in the regulation review. Comments should begin by identifying the regulation by VR number and regulation title.

Please mail comments to the AFDC Program Manager, Division of Benefit Programs, Department of Social Services, 730 East Broad Street, Richmond, VA 23219-1849. Comments may also be submitted by facsimile transmission (FAX number: 804-692-1704).

**Contact:** Carolyn Ellis, AFDC Program Specialist, Division of Benefit Programs, Department of Social Services, 730 East Broad Street, Richmond, VA 23219-1849, telephone (804) 692-1730.

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# GENERAL NOTICES/ERRATA

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## Symbol Key

† Indicates entries since last publication of the *Virginia Register*

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### CHESAPEAKE BAY ADVISORY COMMITTEE

#### † Notice of Acceptance of Grant Proposals

The Chesapeake Bay Advisory Committee will be making recommendations for financial support grants for Chesapeake Bay related projects. The Advisory Committee was given the responsibility of developing guidelines for the use of the monies collected from the sale of the special Chesapeake Bay license plates. Applications will be accepted from state agencies, local government, and public or private not-for-profit agencies, institutions or organizations. Applications may be obtained from Martin G. Farber, Division of Legislative Services, 910 Capitol Street, Richmond, Virginia 23219, telephone (804) 786-3591. The deadline for submission of grant proposals is November 15, 1995.

### DEPARTMENT OF ENVIRONMENTAL QUALITY

#### † Public Notice of 303(d) TMDL Priority List

The Virginia Department of Environmental Quality (DEQ) seeks written comment from interested persons on Virginia rivers and streams identified in 1994 as not meeting water quality standards or not expected to meet water quality standards after the implementation of technology-based controls. This list includes approximately 882 miles of streams that did not fully support fishing, shellfishing, swimming, aquatic life, or drinking water uses. The assessment was based on monitoring for the Virginia Water Quality Assessment Report of 1994, also called the 305(b) Report to the Environmental Protection Agency and Congress.

DEQ monitored about 28,180 stream miles of Virginia's 45,000 stream miles in 1992-93 to conduct this statewide assessment, which is published every two years as required by the federal Clean Water Act. Approximately 27,298 stream miles, or 97%, fully met all water quality standards. The list includes stream segments failing to meet standards because of point and nonpoint source pollutants and those waters that are not expected to meet water quality standards after the implementation of technology-based controls.

Section 303(d) of the Clean Water Act and EPA's Water Quality Planning and Management Regulations (40 CFR Part 130) require the state to report and seek public comment on the waters on the list and to develop total maximum daily loads (TMDLs) for these waters. TMDLs establish allowable pollution loadings or other quantifiable parameters necessary to attain water quality standards. TMDLs will be developed in a separate regulatory process.

The list identifies waters not meeting one or more water quality standards, waters not expected to meet water quality standards after the implementation of technology-based controls, the pollutants responsible for the waters being on the list, and a

priority ranking of these waters for the development of TMDLs. Ultimately, state waters that fail to meet standards are to be included in a water quality management plan to be developed by DEQ and cover each of the state's nine major river basins. The plans will be developed with the help of state and local advisory panels and public and private interests. The plan will recommend control measures to attain water quality standards for the impaired waters identified on the 303(d) list.

The public comment period will end on November 15, 1995. A fact sheet and a copy of the 303(d) priority list are available upon request. Questions or information requests should be addressed to the person listed below. Written comments should include the name, address, and telephone number of the person presenting comments and should be sent to Mr. Charles Martin, Department of Environmental Quality, P.O. Box 10009, Richmond, Virginia 23240-0009, telephone (804) 762-4462, FAX (804) 762-4136.

### VIRGINIA CODE COMMISSION

#### Notice to State Agencies

**Mailing Address:** Our mailing address is: Virginia Code Commission, 910 Capitol Street, General Assembly Building, 2nd Floor, Richmond, VA 23219. You may FAX in your notice; however, we ask that you FAX two copies and do not follow up with a mailed copy. Our FAX number is: (804) 692-0625.

#### Forms for Filing Material on Dates for Publication in *The Virginia Register of Regulations*

All agencies are required to use the appropriate forms when furnishing material and dates for publication in *The Virginia Register of Regulations*. The forms are supplied by the office of the Registrar of Regulations. If you do not have any forms or you need additional forms, please contact: Virginia Code Commission, 910 Capitol Street, General Assembly Building, 2nd Floor, Richmond, VA 23219, telephone (804) 786-3591.

#### FORMS:

NOTICE of INTENDED REGULATORY ACTION - RR01  
NOTICE of COMMENT PERIOD - RR02  
PROPOSED (Transmittal Sheet) - RR03  
FINAL (Transmittal Sheet) - RR04  
EMERGENCY (Transmittal Sheet) - RR05  
NOTICE of MEETING - RR06  
AGENCY RESPONSE TO LEGISLATIVE OBJECTIONS - RR08

# General Notices/Errata



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16. This Statement of Ownership will be printed in the October 16, 1995 issue of this publication.  Check box if not required to publish.

17. Signature and Title of Editor, Publisher, Business Manager, or Owner

Date

*Jane D. Chaffin, Assistant Registrar*

*Oct. 4, 1995*

I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including multiple damages and civil penalties).

### Instructions to Publishers

1. Complete and file one copy of this form with your postmaster on or before October 1, annually. Keep a copy of the completed form for your records.
2. Include in items 10 and 11, in cases where the stockholder or security holder is a trustee, the name of the person or corporation for whom the trustee is acting. Also include the names and addresses of individuals who are stockholders who own or hold 1 percent or more of the total amount of bonds, mortgages, or other securities of the publishing corporation. In item 11, if none, check box. Use blank sheets if more space is required.
3. Be sure to furnish all information called for in item 15, regarding circulation. Free circulation must be shown in items 15d, e, and f.
4. If the publication had second-class authorization as a general or requester publication, this Statement of Ownership, Management, and Circulation must be published; it must be printed in any issue in October or the first printed issue after October, if the publication is not published during October.
5. In item 16, indicate date of the issue in which this Statement of Ownership will be printed.
6. Item 17 must be signed.

*Failure to file or publish a statement of ownership may lead to suspension of second-class authorization.*

PS Form 3526, October 1994 (Reverse)

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# CALENDAR OF EVENTS

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## Symbol Key

- † Indicates entries since last publication of the *Virginia Register*  
♿ Location accessible to handicapped  
☎ Telecommunications Device for Deaf (TDD)/Voice Designation

### NOTICE

Only those meetings which are filed with the Registrar of Regulations by the filing deadline noted at the beginning of this publication are listed. Since some meetings are called on short notice, please be aware that this listing of meetings may be incomplete. Also, all meetings are subject to cancellation and the *Virginia Register* deadline may preclude a notice of such cancellation.

For additional information on open meetings and public hearings held by the Standing Committees of the Legislature during the interim, please call Legislative Information at (804) 786-6530.

VIRGINIA CODE COMMISSION

## EXECUTIVE

### BOARD FOR ACCOUNTANCY

October 23, 1995 - 10 a.m. -- Open Meeting

October 24, 1995 - 8 a.m. -- Open Meeting

Department of Professional and Occupational Regulation,  
3600 West Broad Street, 4th Floor, Richmond, Virginia.♿  
(Interpreter for the deaf provided upon request)

An open meeting to discuss regulatory review and other matters requiring board action will be held immediately after a public hearing on Executive Order 15(94). A public comment period will be held at the beginning of the meeting. Persons desiring to participate in the meeting and requiring special accommodations or interpretive services should contact the board at least 10 days prior to the meeting date so that suitable arrangements can be made. The department fully complies with the Americans with Disabilities Act.

**Contact:** Nancy Taylor Feldman, Assistant Director, Board for Accountancy, 3600 W. Broad St., Richmond, VA 23230-4917, telephone (804) 367-8590, FAX (804) 367-2474 or (804) 367-9753/TDD ☎

\*\*\*\*\*

**December 4, 1995** -- Public comments may be submitted until this date.

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Board for Accountancy intends to amend regulations entitled: **VR 105-01-2. Board for Accountancy Regulations**. Current fees will be adjusted resulting in a decrease in renewal, application and late filing fees. Further, the proposal will eliminate specific examination fees, including language which will place a cap on examination fees, while permitting the Department of Professional and Occupational Regulation to adjust the fees in accordance with examination vendor contract changes.

Statutory Authority: § 54.1-201 of the Code of Virginia.

**Contact:** Nancy Taylor Feldman, Assistant Director, Board for Accountancy, 3600 W. Broad St., Richmond, VA 23230-4917, telephone (804) 367-8590.

### DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

#### Virginia Cattle Industry Board

† October 26, 1995 - 1:30 p.m. -- Open Meeting

† October 27, 1995 - 8:30 a.m. -- Open Meeting

Martha Washington Inn, Abingdon, Virginia.♿

A meeting to review current funded projects and examine and study proposed funding requests. The board will entertain public comment at the conclusion of all other business for a period not to exceed 30 minutes. Any person who needs any accommodations in order to participate at the meeting should contact Reginald Reynolds at least five days before the meeting date so that suitable arrangements can be made.

**Contact:** Reginald B. Reynolds, Executive Director, Virginia Cattle Industry Board, P.O. Box 176, Daleville, VA 24083, telephone (540) 992-1992.

#### Virginia Egg Board

**October 24, 1995 - 10 a.m.** -- Open Meeting  
Roanoke Airport Marriott, 2801 Hershberger Road, Roanoke, Virginia.♿ (Interpreter for the deaf provided upon request)

The board will convene for the purpose of reviewing financial statements and proposed recommendations for education advertising and promotion programs of the Virginia Egg Board. Other business may be discussed before the board at that time. The board will entertain public comment at the conclusion of all other business for a period not to exceed 30 minutes. Any person who needs any accommodations in order to participate at the meeting should contact Cecilia Glembocki at least five days before the meeting date so that suitable arrangements can be made.

**Contact:** Cecilia Glembocki, Executive Director, Virginia Egg Board, 911 Saddleback Court, McLean, VA 22102, telephone (703) 790-1984 or toll-free 1-800-779-7759.

## Virginia Farmers' Market Board

† **October 18, 1995 - 1 p.m.** -- Open Meeting  
Department of Agriculture and Consumer Services, 1100 Bank Street, 2nd Floor, Board Room, Richmond, Virginia. ♿

The board will receive reports on operations and management of network wholesale farmers' markets and process routine business. The board will entertain public comment at the conclusion of all other business for a period not to exceed 30 minutes. Any person who needs any accommodations in order to participate at the meeting should contact Susan K. Simpson at least one-half day before the meeting date so that suitable arrangements can be made.

**Contact:** Susan K. Simpson, Program Director, Virginia Farmers' Market Board, Department of Agriculture and Consumer Services, 1100 Bank St., Suite 1002, Richmond, VA 23219, telephone (804) 786-2112.

## Virginia Horse Industry Board

**December 14, 1995 - 10 a.m.** -- Open Meeting  
Virginia Cooperative Extension, Charlottesville-Albemarle Unit, 168 Spotnap Road, Lower Level Meeting Room, Charlottesville, Virginia. ♿

The board will entertain public comment at the conclusion of all other business for a period not to exceed 30 minutes. Any person who needs any accommodations in order to participate at the meeting should contact Andrea S. Heid at least five days before the meeting date so that suitable arrangements can be made.

**Contact:** Andrea S. Heid, Equine Marketing Specialist, Department of Agriculture and Consumer Services, 1100 Bank St., #906, Richmond, VA 23219, telephone (804) 786-5842 or (804) 371-6344/TDD ♿

## Virginia Seed Potato Board

**November 1, 1995 - 8 p.m.** -- Open Meeting  
Eastern Shore Agricultural Experiment Station, Research Drive, Painter, Virginia. ♿

A meeting to review regulations and to plan for the 1996 seed season. The board will entertain public comment at the conclusion of all other business for a period not to exceed 30 minutes. Any person who needs any accommodations in order to participate at the meeting should contact J. William Mapp at least five days before the meeting date so that suitable arrangements can be made.

**Contact:** J. William Mapp, Program Director, P.O. Box 26, Onley, VA 23418, telephone (804) 787-5867.

## STATE AIR POLLUTION CONTROL BOARD

**November 9, 1995 - 10 a.m.** -- Public Hearing  
Hampton Roads Planning District Commission, The Regional Building, 723 Woodlake Drive, Chesapeake, Virginia.

**November 13, 1995 - 11 a.m.** -- Public Hearing  
James McCort Administration Building, One County Complex Court, Board Chamber Room, Prince William, Virginia.

**November 14, 1995 - 10 a.m.** -- Public Hearing  
State Capitol, Capitol Square, House Room 4, Richmond, Virginia.

**December 1, 1995** -- Written comments may be submitted until the close of business on this date.

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the State Air Pollution Control Board intends to adopt regulations entitled: **VR 120-99-05. Regulations for the Control of Emissions from Fleet Vehicles.** The proposed regulation requires that owners or operators of fleets with 10 or more vehicles make a percentage of annual vehicle purchases clean-fuel fleet (CCF) vehicles and applies to fleets which operate in the following localities in the program areas: (i) the Northern Virginia area: Arlington County, Fairfax County, Fauquier County, Loudoun County, Prince William County, Stafford County, the City of Alexandria, the City of Fairfax, the City of Falls Church, the City of Manassas, and the City of Manassas Park; (ii) the Richmond area: Caroline County, Charles City County, Chesterfield County, Hanover County, Henrico County, the City of Colonial Heights, the City of Hopewell, and the City of Richmond; and (iii) the Hampton Roads area: James City County, York County, the City of Chesapeake, the City of Hampton, the City of Newport News, the City of Norfolk, the City of Poquoson, the City of Portsmouth, the City of Suffolk, the City of Virginia Beach, and the City of Williamsburg.

**Request for Comments:** The purpose of this notice is to provide the public with the opportunity to comment on the proposed regulation and the costs and benefits of the proposal.

**Localities Affected:** The localities affected by the proposed regulation are as follows:

1. The Northern Virginia Region: Arlington County, Fairfax County, Fauquier County, Loudoun County, Prince William County, Stafford County, the City of Alexandria, the City of Fairfax, the City of Falls Church, the City of Manassas, and the City of Manassas Park.
2. The Richmond Region: Caroline County, Charles City County, Chesterfield County, Hanover County, Henrico County, the City of Colonial Heights, the City of Hopewell, and the City of Richmond.
3. The Hampton Roads Region: James City County, York County, the City of Chesapeake, the City of Hampton, the City of Newport News, the City of Norfolk, the City of Poquoson, the City of Portsmouth, the City of Suffolk, the City of Virginia Beach, and the City of Williamsburg.

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# Calendar of Events

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Additional Issues for Public Comment: In addition to comments on the proposal, the department is particularly interested in any comments on the following:

1. Whether the regulation should provide that a credit generated by the purchase of an extra CFF vehicle stay with the vehicle or be traded and sold freely.
2. Whether the reporting requirements in this regulation are adequate, although they require less extensive documentation than the requirements detailed in the federal regulations.
3. Whether the regulation should provide for trading of credits between program areas, although the federal regulations prohibit the trading of credits generated in one nonattainment area with another nonattainment area except in the case of an interstate nonattainment area.
4. Whether the regulation should provide that (i) credits not depreciate over time, although it would be in conflict with provisions of most emissions and trading programs provided for in the Clean Air Act and under consideration by many other states and (ii) credits may be traded between mobile and stationary sources.
5. Whether the Commonwealth should change its vehicle registration process in order to be able to determine where fleet vehicles are primarily operated.

Location of Proposal: The proposal, an analysis conducted by the department (including a statement of purpose, a statement of estimated impact of the proposed regulation, an explanation of need for the proposed regulation, an estimate of the impact of the proposed regulation upon small businesses, and a discussion of alternative approaches) and any other supporting documents may be examined at the Department's Office of Air Program Development (Eighth Floor), 629 East Main Street, Richmond, Virginia, and at the department's regional offices (listed below) between 8:30 a.m. and 4:30 p.m. of each business day until the close of the public comment period.

Fredericksburg Satellite Office  
Department of Environmental Quality  
300 Central Road, Suite B  
Fredericksburg, Virginia  
Ph: (540) 899-4600

Piedmont Regional Office  
Department of Environmental Quality  
4900 Cox Road  
Innsbrook Corporate Center  
Glen Allen, Virginia  
Ph: (804) 527-5300

Tidewater Regional Office  
Department of Environmental Quality  
Old Greenbrier Village, Suite A  
2010 Old Greenbrier Road  
Chesapeake, Virginia  
Ph: (804) 424-6707

Northern Virginia Satellite Office  
Department of Environmental Quality  
Springfield Corporate Center, Suite 310  
6225 Brandon Avenue  
Springfield, Virginia  
Ph: (703) 644-0311

Statutory Authority: § 46.2-1179.1 of the Code of Virginia.

Written comments may be submitted until the close of business on December 1, 1995, to the Director, Office of Air Program Development, Department of Environmental Quality, P.O. Box 10009, Richmond, Virginia, 23240. The purpose of this notice is to provide the public the opportunity to comment on the proposed regulation and the costs and benefits of the proposal.

**Contact:** Mary E. Major, Senior Policy Analyst, Air Programs Section, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4423.

## State Advisory Board on Air Pollution

**October 16, 1995 - 9 a.m. -- Open Meeting**

**October 17, 1995 - 8:30 a.m. -- Open Meeting**

Ramada Plaza Resort Oceanfront, Oceanfront at 57th, Virginia Beach, Virginia. ☒

The 29th annual meeting of the advisory board. Topics for the meeting include overviews of Clean Air Act issues from Congress, EPA, and the Commonwealth; regional air quality management and modeling; regulatory negotiation; cost/benefit analysis of environmental regulations; and regulatory reform. Speakers will include the Honorable Thomas J. Bliley (Congressman, 7th District of Virginia and Chair, House Commerce Committee), the Honorable Becky Norton Dunlop (Secretary of Natural Resources for the Commonwealth of Virginia) and Mary Nichols (Assistant Administrator for Air and Radiation, USEPA).

**Contact:** Kathy Frahm, Policy Analyst, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240-0009, telephone (804) 762-4376 or FAX (804) 762-4346.

## VIRGINIA ALCOHOLIC BEVERAGE CONTROL BOARD

**October 16, 1995 - 9:30 a.m. -- Open Meeting**

**October 30, 1995 - 9:30 a.m.-- Open Meeting**

Department of Alcoholic Beverage Control, 2901 Hermitage Road, Richmond, Virginia. ☒

A meeting to receive and discuss reports and activities from staff members. Other matters not yet determined.

**Contact:** W. Curtis Coleburn, Secretary to the Board, 2901 Hermitage Road, P.O. Box 27491, Richmond, VA 23261, telephone (804) 367-0712 or FAX (804) 367-1802.

## VIRGINIA BOARD FOR ASBESTOS LICENSING AND LEAD CERTIFICATION

† **November 8, 1995 - 10 a.m.** -- Open Meeting  
Department of Professional and Occupational Regulation,  
3600 West Broad Street, Conference Room 3, Richmond,  
Virginia. ☎

A general business meeting.

**Contact:** David E. Dick, Assistant Director, Department of Professional and Occupational Regulation, 3600 W. Broad St., Richmond, VA 23230, telephone (804) 367-8595, FAX (804) 367-2475 or (804) 367-9753/TDD ☎

## AUCTIONEERS BOARD

**October 18, 1995 - 9 a.m.** -- Open Meeting  
Department of Professional and Occupational Regulation,  
3600 West Broad Street, Richmond, Virginia. ☎

A meeting to conduct general board business. Persons desiring to participate in the meeting and requiring special accommodations or interpretive services should contact the department so that suitable arrangements can be made. The department fully complies with the Americans with Disabilities Act.

**Contact:** Mark N. Courtney, Assistant Director, Department of Professional and Occupational Regulation, 3600 W. Broad St., Richmond, VA 23230, telephone (804) 367-8514 or (804) 367-9753/TDD ☎

## BOARD OF AUDIOLOGY AND SPEECH-LANGUAGE PATHOLOGY

† **November 16, 1995 - 9:30 a.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street,  
Richmond, Virginia. ☎

A general board meeting to discuss board business. Public comments will be received at the beginning of the meeting for 15 minutes.

**Contact:** Lisa Russell Hahn, Executive Director, Board of Audiology and Speech-Language Pathology, 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9907 or (804) 662-7197/TDD ☎

## VIRGINIA AVIATION BOARD

**October 24, 1995 - 3 p.m.** -- Open Meeting  
Department of Aviation, 5702 Gulfstream Road, Sandston,  
Virginia. ☎ (Interpreter for the deaf provided upon request)

A workshop for the board. No formal actions will be taken. Individuals with a disability should contact Cindy Waddell 10 days prior to the meeting if assistance is needed.

**Contact:** Cindy Waddell, Department of Aviation, 5702 Gulfstream Rd., Sandston, VA 23150, telephone (804) 236-3625 or (804) 236-3624/TDD ☎

**October 25, 1995 - 9 a.m.** -- Open Meeting  
Sheraton Inn Richmond Airport, 4700 South Laburnum Avenue, Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

A regular bi-monthly meeting of the board. Applications for state funding will be presented to the board and other matters of interest to the Virginia aviation community will be discussed. Individuals with a disability should contact Cindy Waddell 10 days prior to the meeting if assistance is needed.

**Contact:** Cindy Waddell, Department of Aviation, 5702 Gulfstream Rd., Sandston, VA 23150, telephone (804) 236-3625 or (804) 236-3624/TDD ☎

## CHESAPEAKE BAY LOCAL ASSISTANCE BOARD

### Central Area Review Committee

**November 2, 1995 - 2 p.m.** -- Open Meeting  
**December 7, 1995 - 2 p.m.** -- Open Meeting  
Chesapeake Bay Local Assistance Department, 805 East Broad Street, Suite 701, Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

A meeting to review Chesapeake Bay Preservation Area programs for the Central Area. Persons interested in observing should call the Chesapeake Bay Local Assistance Department to verify meeting time, location and schedule. No comments from the public will be entertained at the committee meeting; however, written comments are welcome.

**Contact:** Florence E. Jackson, Program Support Technician, Chesapeake Bay Local Assistance Department, 805 E. Broad St., Suite 701, Richmond, VA 23219, telephone (804) 225-3440, FAX (804) 225-3447 or toll-free 1-800-243-7229/TDD ☎

### Northern Area Review Committee

**November 16, 1995 - 10 a.m.** -- Open Meeting  
**December 6, 1995 - 10 a.m.** -- Open Meeting  
Chesapeake Bay Local Assistance Department, 805 East Broad Street, Suite 701, Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

A meeting to review Chesapeake Bay Preservation Area programs for the Northern Area. Persons interested in observing should call the Chesapeake Bay Local Assistance Department to verify meeting time, location and schedule. No comments from the public will be entertained at the committee meeting; however, written comments are welcome.

**Contact:** Florence E. Jackson, Program Support Technician, Chesapeake Bay Local Assistance Department, 805 E. Broad St., Suite 701, Richmond, VA 23219, telephone (804) 225-3440, FAX (804) 225-3447 or toll-free 1-800-243-7229/TDD ☎

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# Calendar of Events

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## Southern Area Review Committee

**November 2, 1995 - 10 a.m.** -- Open Meeting

**December 7, 1995 - 10 a.m.** -- Open Meeting

Chesapeake Bay Local Assistance Department, 805 East Broad Street, Suite 701, Richmond, Virginia. (Interpreter for the deaf provided upon request)

A meeting to review Chesapeake Bay Preservation Area programs for the Southern Area. Persons interested in observing should call the Chesapeake Bay Local Assistance Department to verify meeting time, location and schedule. No comments from the public will be entertained at the committee meeting; however, written comments are welcome.

**Contact:** Florence E. Jackson, Program Support Technician, Chesapeake Bay Local Assistance Department, 805 E. Broad St., Suite 701, Richmond, VA 23219, telephone (804) 225-3440, FAX (804) 225-3447 or toll-free 1-800-243-7229/TDD

## DEPARTMENT OF CONSERVATION AND RECREATION

**October 23, 1995** -- Public comments may be submitted until this date.

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Department of Conservation and Recreation intends to adopt regulations entitled: **VR 217-03-00. Nutrient Management Training and Certification Regulations.** This regulation is being promulgated to govern a voluntary program for training and certifying persons preparing nutrient management plans. The plans are prepared to manage land application of fertilizers, sewage sludge, manure, and other nutrient sources for agronomic benefits and in ways which protect water quality. The regulation provides for certification standards, revocation or suspension of certificates, criteria for the development of nutrient management plans, and program fees. The Department of Conservation and Recreation will administer this program as part of the nutrient management program.

The development of a voluntary nutrient management training and certification program was authorized by the 1994 Session of the General Assembly. The program should expand the number of persons in the private and public sector capable of developing nutrient management plans beyond that of the limited number of agency personnel currently involved. Nutrient management is a key strategy to assist in efforts to reduce nitrogen and phosphorus levels in the Chesapeake Bay necessary to protect ecological and economic interests dependent on the Chesapeake Bay. The program should assist the Commonwealth in achieving a 40% reduction in controllable nutrient loads entering the Chesapeake Bay tributaries consistent with the Chesapeake Bay Agreement of 1983, as amended in 1987 and 1992. The program should also protect groundwater and surface waters in the Commonwealth

while retaining the agronomic benefits of efficient nutrient use on farms crops and other lands.

Statutory Authority: § 10.1-104.2 of the Code of Virginia.

**Contact:** E. J. Fanning, Assistant Manager, Nutrient Management Program, Department of Conservation and Recreation, 203 Governor St., Suite 206, Richmond, VA 23219, telephone (804) 371-8095.

## Caledon Natural Area Ad Hoc Committee

† **November 8, 1995 - 9:30 a.m.** -- Open Meeting

Caledon Natural Area, King George County, Virginia. (Interpreter for the deaf provided upon request)

An introductory meeting of the Caledon Ad Hoc Committee. The purpose of the meeting is to review the 1985 Caledon Task Force recommendations, make committee assignments for updating the 1985 recommendations, and establish a timeline for completion. Please give one week's notice for interpreter services.

**Contact:** Theresa Duffey, Planning and Training Director, Department of Conservation and Recreation, Division of State Parks, Richmond, Virginia 23219, telephone (804) 786-9025, FAX (804) 786-9294 or (804) 786-2121/TDD

## Falls of the James Scenic River Advisory Board

**October 19, 1995 - Noon** -- Open Meeting

**November 16, 1995 - Noon** -- Open Meeting

City Hall, Planning Commission Conference Room, 5th Floor, Richmond, Virginia.

A meeting to discuss river issues and programs.

**Contact:** Richard G. Gibbons, Environmental Program Manager, Department of Conservation and Recreation, Division of Planning and Recreation Resources, 203 Governor St., Richmond, VA 23219, telephone (804) 786-4132, FAX (804) 371-7899, or (804) 786-2121/TDD

## Board on Conservation and Development of Public Beaches

**October 25, 1995 - 10:30 a.m.** -- Open Meeting

Virginia Institute of Marine Science, Director's Conference Room, Richmond, Virginia.

A meeting to discuss proposals from localities requesting matching grant funds from the board.

**Contact:** Carlton Lee Hill, Chief Shoreline Engineer, Department of Conservation and Recreation, Division of Soil and Water Conservation, 203 Governor St., Suite 206, Richmond, VA 23219, telephone (804) 786-3998.

## BOARD OF CORRECTIONS

† **October 18, 1995 - 10 a.m.** -- Open Meeting  
Department of Corrections Academy for Staff Development,  
1900 River Road West, Crozier, Virginia. ☎

A meeting to discuss matters as may be presented to the board.

**Contact:** Barbara Fellows, Secretary to the Board,  
Department of Corrections, 6900 Atmore Dr., Richmond, VA  
23225, telephone (804) 674-3235.

## Administration Committee

† **October 18, 1995 - 8:30 a.m.** -- Open Meeting  
Department of Corrections, 6900 Atmore Drive, Richmond,  
Virginia. ☎

A meeting to discuss administrative matters as may be presented to the full board.

**Contact:** Barbara Fellows, Secretary to the Board,  
Department of Corrections, 6900 Atmore Dr., Richmond, VA  
23225, telephone (804) 674-3235.

## Corrections Services Committee

† **October 17, 1995 - 10 a.m.** -- Open Meeting  
Department of Corrections, 6900 Atmore Drive, Richmond,  
Virginia. ☎

A meeting to discuss corrections matters as may be presented to the full board.

**Contact:** Barbara Fellows, Secretary to the Board,  
Department of Corrections, 6900 Atmore Dr., Richmond, VA  
23225, telephone (804) 674-3235.

## CRIMINAL JUSTICE SERVICES BOARD

**November 1, 1995 - 11 a.m.** -- Open Meeting  
General Assembly Building, 910 Capitol Square, House  
Room D, Richmond, Virginia. ☎

A meeting to consider matters related to the board's responsibilities for criminal justice training and improvement of the criminal justice system. Public comments will be heard before adjournment of the meeting.

**Contact:** Paula Scott Dehetre, Chief, Resource Management, Department of Criminal Justice Services, 805 E. Broad St., 10th Floor, Richmond, VA 23219, telephone (804) 786-8730 or FAX (804) 371-8981.

## Committee on Training

**November 1, 1995 - 9 a.m.** -- Open Meeting  
General Assembly Building, 910 Capitol Square, House  
Room D, Richmond, Virginia. ☎

A meeting to discuss matters related to training for criminal justice personnel.

**Contact:** Paula Scott Dehetre, Chief, Resource Management, Department of Criminal Justice Services, 805 E. Broad St., 10th Floor, Richmond, VA 23219, telephone (804) 786-8730 or FAX (804) 371-8981.

## DEPARTMENT FOR THE DEAF AND HARD-OF-HEARING

### Advisory Board

† **November 1, 1995 - 10 a.m.** -- Open Meeting  
Department for the Deaf and Hard-of-Hearing, 1100 Bank Street, 11th Floor, Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

A regular quarterly business meeting of the advisory board. Public comment will be permitted with advance notice.

**Contact:** Gloria L. Cathcart, Human Services Program Specialist, Department for the Deaf and Hard-of-Hearing, 1100 Bank St., 11th Floor, Richmond, VA 23219, telephone (804) 371-7892 (V/TTY), toll-free 1-800-552-7917 (V/TTY) or (804) 225-2570/TDD ☎

## VIRGINIA ECONOMIC DEVELOPMENT PARTNERSHIP

### Board of Directors

† **October 26, 1995 - 10 a.m.** -- Open Meeting  
Department of Economic Development, Riverfront Plaza, West Tower, 901 East Byrd Street, 19th Floor, Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

A meeting to further discuss the transfer of the functions currently in the Department of Economic Development to the partnership, and to discuss draft bylaws for the board.

**Contact:** Christopher D. Lloyd, Special Assistant to the Secretary, Secretariat of Commerce and Trade, P.O. Box 1475, Richmond, VA 23212, telephone (804) 786-7831, FAX (804) 371-0250 or (804) 786-7765/TDD ☎

## BOARD OF EDUCATION

**October 26, 1995 - 8 a.m.** -- Open Meeting  
**November 16, 1995 - 8 a.m.** -- Open Meeting  
General Assembly Building, Ninth and Broad Streets, Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

The Board of Education and the Board of Vocational Education will hold a regularly scheduled meeting. Business will be conducted according to items listed on the agenda. The agenda is available upon request.

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## Calendar of Events

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**Contact:** James E. Laws, Jr., Administrative Assistant for Board Relations, Department of Education, P.O. Box 2120, Richmond, VA 23216-2120, telephone (804) 225-2924 or toll-free 1-800-292-3820.

### LOCAL EMERGENCY PLANNING COMMITTEE - CHESTERFIELD COUNTY

**November 2, 1995 - 5:30 p.m.** -- Open Meeting  
† **December 7, 1995 - 5:30 p.m.** -- Open Meeting  
6610 Public Safety Way, Chesterfield, Virginia.

A regular meeting.

**Contact:** Lynda G. Furr, Assistant Emergency Services Coordinator, Chesterfield Fire Department, P.O. Box 40, Chesterfield, VA 23832, telephone (804) 748-1236.

### LOCAL EMERGENCY PLANNING COMMITTEE - PRINCE WILLIAM COUNTY, MANASSAS CITY, AND MANASSAS PARK CITY

† **October 16, 1995 - 1:30 p.m.** -- Open Meeting  
One County Complex Court, Potomac Conference Room,  
Prince William, Virginia. ☎

A multi-jurisdictional local emergency planning committee meeting to discuss issues related to hazardous substances in the jurisdictions. SARA Title III provisions and responsibilities for hazardous material emergency response planning.

**Contact:** John E. Medici, Hazardous Materials Officer, One County Complex Court, Internal Zip MC470, Prince William, VA 22192, telephone (703) 792-6800.

### VIRGINIA EMPLOYMENT COMMISSION

#### State Advisory Board

† **October 30, 1995 - 8:30 a.m.** -- Open Meeting  
Virginia Employment Commission, 703 East Main Street,  
Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

A regular meeting.

**Contact:** Nancy L. Munnikhuysen, Director, Employer Relations and Customer Service, Virginia Employment Commission, 703 E. Main St., Richmond, VA 23219, telephone (804) 371-6004 or (804) 371-8050/TDD ☎

### DEPARTMENT OF ENVIRONMENTAL QUALITY

**October 17, 1995 - 7 p.m.** -- Open Meeting  
Norfolk City Council Chambers, 310 Union Street, City Hall,  
11th Floor, Norfolk, Virginia. ☎ (Interpreter for the deaf provided upon request)

**October 25, 1995 - 7 p.m.** -- Open Meeting

Spotsylvania County Board of Supervisor's Room, County Administration Building, Route 208, Spotsylvania, Virginia. ☎ (Interpreter for the deaf provided upon request)

Pursuant to § 10.1-1184 of the Code of Virginia, representatives of the State Water Control Board, State Air Pollution Control Board and Virginia Waste Management Board will hold a joint public forum to receive public comments about environmental issues of concern to the Commonwealth. Additionally, the meeting will provide an opportunity for public comment on the Department of Environmental Quality's regulations under review.

**Contact:** Kathy Frahm, Policy Analyst, Department of Environmental Quality, Policy and Legislation, 629 E. Main St., Richmond, VA 23219, telephone (804) 762-4376, FAX (804) 762-4346 or (804) 762-4021/TDD ☎

† **November 16, 1995 - 10 a.m.** -- Open Meeting  
Department of Environmental Quality, 629 East Main Street,  
Richmond, Virginia.

A meeting to obtain advice from interested parties to the Virginia Waste Management Board on desirable features to be incorporated into the Voluntary Remediation Program. Subsequent meetings will be held on December 20, 1995, January 17, 1996, and February 27, 1996. The public should contact the Department of Environmental Quality prior to attendance to confirm the meeting's occurrence, location and time.

**Contact:** Dr. Wladimir Gulevich, Assistant Division Director, Office of Technical Assistance, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240-0009, telephone (804) 762-4236, FAX (804) 762-4327 or (804) 762-4021/TDD ☎

### Litter Control and Recycling Fund Advisory Committee

#### NOTE: CHANGE IN MEETING DATE

**October 17, 1995 - 1:30 p.m.** -- Open Meeting  
General Assembly Building, 910 Capitol Square, 4th Floor,  
West Conference Room, Richmond, Virginia. ☎

A meeting to (i) review and make recommendations on applications for grants from the fund; (ii) promote the control, prevention and elimination of litter from the Commonwealth and encourage recycling; and (iii) advise the Director of the Department of Environmental Quality on other litter control and recycling matters. Committee meetings, if appropriate, will be held prior to or after the board meeting. Please call the department for details.

**Contact:** Paddy Katzen, Special Assistant to the Secretary of Natural Resources, Department of Environmental Quality, 629 E. Main St., Richmond, VA 23219, telephone (804) 762-4488.

### VIRGINIA FIRE SERVICES BOARD

† **October 20, 1995 - 9 a.m.** -- Open Meeting  
Holiday Inn, Suffolk, Virginia.

A business meeting to discuss training and policies. The meeting is open to the public for comments and input.

**Contact:** Bobby L. Stanley, Jr., Executive Director, Department of Fire Programs, 2807 N. Parham Rd., Suite 200, Richmond, VA 23294, telephone (804) 527-4326.

## Fire/EMS Education and Training Committee

† **October 19, 1995 - 10 a.m.** -- Open Meeting  
Holiday Inn, Suffolk, Virginia.

A meeting to discuss fire training and policies. The meeting is open to the public for comments and input.

**Contact:** Bobby L. Stanley, Jr., Executive Director, Department of Fire Programs, 2807 N. Parham Rd., Suite 200, Richmond, VA 23294, telephone (804) 527-4326.

## Fire Prevention and Control Committee

† **October 19, 1995 - 9 a.m.** -- Open Meeting  
Holiday Inn, Suffolk, Virginia.

A meeting to discuss fire training and policies. The meeting is open to the public for comments and input.

**Contact:** Bobby L. Stanley, Jr., Executive Director, Department of Fire Programs, 2807 N. Parham Rd., Suite 200, Richmond, VA 23294, telephone (804) 527-4326.

## Legislative/Liaison Committee

† **October 19, 1995 - 1 p.m.** -- Open Meeting  
Holiday Inn, Suffolk, Virginia.

A meeting to discuss fire training and policies. The meeting is open to the public for comments and input.

**Contact:** Bobby L. Stanley, Jr., Executive Director, Department of Fire Programs, 2807 N. Parham Rd., Suite 200, Richmond, VA 23294, telephone (804) 527-4326.

## BOARD OF FORESTRY

**October 16, 1995 - 1 p.m.** -- Open Meeting  
**October 17, 1995 - 8 a.m.** -- Open Meeting  
Virginia Tech, Donaldson Brown Center, Conference Room C, Blacksburg, Virginia. ♿

A tour of the forestry school and facilities at Virginia Tech on October 16, and a formal meeting to discuss general business on October 17.

**Contact:** Barbara A. Worrell, Administrative Staff Specialist, Department of Forestry, P.O. Box 3758, Charlottesville, VA 22903-0758, telephone (804) 977-6555, FAX (804) 296-2369 or (804) 977-6555/TDD

## BOARD OF FUNERAL DIRECTORS AND EMBALMERS

† **November 8, 1995 - 9 a.m.** -- Open Meeting

Department of Health Professions, 6606 West Broad Street, Richmond, Virginia. ♿

A general board meeting to discuss board business. Public comments will be received at the beginning of the meeting for 15 minutes. Formal hearings will take place after the board meeting at 1 p.m.

**Contact:** Lisa Russell Hahn, Executive Director, Board of Funeral Directors and Embalmers, 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9907 or (804) 662-7197/TDD ♿

† **November 9, 1995 - 9 a.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street, Richmond, Virginia. ♿

Formal hearings will be conducted.

**Contact:** Lisa Russell Hahn, Executive Director, Board of Funeral Directors and Embalmers, 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9907 or (804) 662-7197/TDD ♿

## DEPARTMENT OF HEALTH

### Biosolids Use Information Committee

#### NOTE: CHANGE IN MEETING DATE

**October 19, 1995 - 2 p.m.** -- Open Meeting  
The UVA Richmond Center, 7740 Shrader Road, Suite E, Richmond, Virginia. ♿

A meeting to review and evaluate specific concerns relating to the land application and agricultural use of biosolids, including issues related to the final Biosolids Use Regulations recently adopted by the State Board of Health to regulate the land application, marketing, or distribution of biosolids.

**Contact:** C.M. Sawyer, Division Director, Department of Health, Office of Water Programs, P.O. Box 2448, Richmond, VA 23218, telephone (804) 786-1755 or FAX (804) 786-5567.

### Biosolids Use Regulations Advisory Committee

#### NOTE: CHANGE IN MEETING DATE

**October 19, 1995 - 9 a.m.** -- Open Meeting  
The UVA Richmond Center, 7740 Shrader Road, Suite E, Richmond, Virginia. ♿

A meeting to discuss issues concerning the implementation of the Biosolids Use Regulations involving land application, marketing, or distribution of biosolids.

**Contact:** C.M. Sawyer, Division Director, Department of Health, Office of Water Programs, P.O. Box 2448, Richmond, VA 23218, telephone (804) 786-1755 or FAX (804) 371-2891.

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## Calendar of Events

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### Shellfish and Crustacea Advisory Committee

**November 1, 1995 - 9 a.m.** -- Open Meeting  
Virginia Tech Seafood Experiment Station, Hampton, Virginia.

A meeting to review existing Virginia Board of Health regulations governing the harvesting and processing of oysters, clams and other shellfish.

**Contact:** Keith Skiles, Program Manager, Department of Health, 1500 E. Main St., Suite 109, Richmond, VA 23219, telephone (804) 786-7937.

### Commissioner's Waterworks Advisory Committee

† **November 16, 1995 - 10 a.m.** -- Open Meeting  
Sydnor Hydrodynamics, Inc., 2111 Magnolia Street, Richmond, Virginia.

A general business meeting of the committee. The committee meets on the third Thursday of odd months at various locations around the state. The next meeting is scheduled for January 18, 1996. Location will be announced.

**Contact:** Thomas B. Gray, P.E., Special Projects Manager, Division of Water Supply Engineering, Department of Health, 1500 E. Main St., Room 109, Richmond, VA 23219, telephone (804) 786-5566.

### VIRGINIA HEALTH SERVICES COST REVIEW COUNCIL

**October 24, 1995 - 9:30 a.m.** -- Open Meeting  
Trigon Blue Cross/Blue Shield, 2015 Staples Mill Road, Richmond, Virginia.☎

A monthly meeting of the council.

**Contact:** Richard L. Walker, Director of Administration, Virginia Health Services Cost Review Council, 805 E. Broad St., 6th Floor, Richmond, VA 23219, telephone (804) 786-6371.

### COMMISSION ON THE FUTURE OF HIGHER EDUCATION

**November 15, 1995 - 10 a.m.** -- Open Meeting  
General Assembly Building, 910 Capitol Square, 6th Floor, Richmond, Virginia.

A general business meeting. For information about the meeting agenda, contact the Council of Higher Education.

**Contact:** Anne H. Moore, Associate Director, State Council of Higher Education for Virginia, 101 N. 14th St., 9th Floor, Richmond, VA 23219, telephone (804) 225-2636.

### STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA

**October 20, 1995 - 9 a.m.** -- Open Meeting  
James Monroe Building, 101 North 14th Street, Council Conference Room, 9th Floor, Richmond, Virginia.☎  
(Interpreter for the deaf provided upon request)

A general business meeting. Contact the Council of Higher Education for additional information.

**Contact:** Anne H. Moore, Associate Director, State Council of Higher Education for Virginia, 101 N. 14th St., 9th Floor, Richmond, VA 23219, telephone (804) 225-2636.

### DEPARTMENT OF HISTORIC RESOURCES

#### Board of Historic Resources and State Review Board

**October 18, 1995 - 10 a.m.** -- Open Meeting  
Virginia Historical Society, 428 North Boulevard, Richmond, Virginia.☎ (Interpreter for the deaf provided upon request)

A joint meeting to review the department's work program for 1995/96 and to consider the following properties for nomination to the Virginia Landmarks Register and to the National Register of Historic Places.

1. Brandon Plantation, Halifax County
2. Brooklyn Store, Halifax County
3. Brooklyn Tobacco Factory, Halifax County
4. East Belmont, Albemarle County
5. R. T. Greer and Company (Herb House), Marion, Smyth County
6. Hotel Roanoke, Roanoke, Virginia
7. Key Bridge, Arlington County
8. Long Glade Farm, Augusta County
9. Southwest Virginia Holiness Association Camp Meeting, Salem
10. Sunnyside, Northumberland County
11. Thornton-Motley House, Caroline County
12. Victoria High School, Victoria, Lunenburg County

National Cemeteries:

1. Culpeper National Cemetery, Culpeper, Culpeper County
2. Glendate National Cemetery, Henrico County
3. Hampton National Cemetery, Hampton
4. Staunton National Cemetery, Staunton
5. Winchester National Cemetery, Winchester

**Contact:** Margaret Peters, Preservation Program Manager, Department of Historic Resources, 221 Governor St., Richmond, VA 23219, telephone (804) 786-3143, FAX (804) 225-4261 or (804) 786-1934/TDD ☎

## HOPEWELL INDUSTRIAL SAFETY COUNCIL

**November 7, 1995 - 9 a.m.** -- Open Meeting  
Hopewell Community Center, Second and City Point Road,  
Hopewell, Virginia. ♿ (Interpreter for the deaf provided upon  
request)

Local Emergency Preparedness Committee Meeting on  
emergency preparedness as required by SARA Title III.

**Contact:** Robert Brown, Emergency Services Coordinator,  
300 N. Main St., Hopewell, VA 23860, telephone (804) 541-  
2298.

## DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT (BOARD OF)

**October 16, 1995 - 10 a.m.** -- Public Hearing  
501 North Second Street, Richmond, Virginia.

**December 29, 1995** -- Public comments may be submitted  
until this date.

Notice is hereby given in accordance with § 9-6.14:7.1 of  
the Code of Virginia that the Board of Housing and  
Community Development intends to amend regulations  
entitled: **VR 394-01-21. Virginia Uniform Statewide  
Building Code, Volume 1 - New Construction  
Code/1993.** The purpose of the proposed action is to (i)  
amend the "Notice of Violation" section to comport with  
the Code of Virginia; (ii) amend the requirements for the  
spacing of intermediate supports for guardrails; (iii)  
amend the sections that establish "Wind Zones" in  
Virginia to comply with those required by new federal  
regulation; (iv) delete vague and subjective text in the  
regulation regarding ice damming on roofs for one and  
two family dwellings; (v) raise the size and occupancy  
threshold regarding when permits are required for tents;  
and (vi) amend the "Existing Building" section for clarity  
and remove vague and subjective language which may  
be barriers to revitalization of existing buildings.

Statutory Authority: § 36-98 of the Code of Virginia.

**Contact:** Norman R. Crumpton, Program Manager,  
Department of Housing and Community Development, 501 N.  
2nd St., Richmond, VA 23219-1321, telephone (804) 371-  
7170.

## State Building Code Technical Review Board

**October 20, 1995 - 10 a.m.** -- Open Meeting  
The Jackson Center, 501 North Second Street, 1st Floor  
Conference Room, Richmond, Virginia. ♿ (Interpreter for the  
deaf provided upon request)

The board hears administrative appeals concerning  
building and fire codes and other regulations of the  
department. The board also issues interpretations and  
formalizes recommendations to the Board of Housing  
and Community Development concerning future changes  
to the regulations.

**Contact:** Vernon W. Hodge, Building Code Supervisor, State  
Building Office, Department of Housing and Community  
Development, 501 N. 2nd St., Richmond, VA 23219-1321,  
telephone (804) 371-7170 or (804) 371-7089/TDD ♿

## VIRGINIA HOUSING DEVELOPMENT AUTHORITY

**October 24, 1995 - 11 a.m.** -- Open Meeting  
Virginia Housing Development Authority, 601 South Belvidere  
Street, Richmond, Virginia. ♿

A regular meeting of the Board of Commissioners to  
review and, if appropriate, (i) approve the minutes from  
the prior monthly meeting; (ii) consider for approval and  
ratification mortgage loan commitments under its various  
programs; (iii) review the authority's operations for the  
prior month; and (iv) consider such other matters and  
take such other actions as it may deem appropriate.  
Various committees of the Board of Commissioners may  
also meet before or after the regular meeting and  
consider matters within their purview. The planned  
agenda of the meeting will be available at the offices of  
the authority one week prior to the date of the meeting.

**Contact:** J. Judson McKellar, Jr., General Counsel, Virginia  
Housing Development Authority, 601 S. Belvidere Street,  
Richmond, VA 23220, telephone (804) 782-1986.

## LIBRARY BOARD

† **November 13, 1995 - 10 a.m.** -- Open Meeting  
The Library of Virginia, 11th Street at Capitol Square, 3rd  
Floor, Supreme Court Room, Richmond, Virginia. ♿

A meeting to discuss administrative matters of The  
Library of Virginia.

**Contact:** Jean H. Taylor, Secretary to the State Librarian,  
The Library of Virginia, 11th Street at Capitol Square,  
Richmond, VA 23219, telephone (804) 786-2332.

## State Networking Users Advisory Board

† **October 26, 1995 - 10 a.m.** -- Open Meeting  
Jefferson-Madison Regional Library, 201 East Market Street,  
Madison Room, 3rd Floor Conference Room, Charlottesville,  
Virginia. ♿

A meeting to discuss administrative matters.

**Contact:** Jean H. Taylor, Secretary to the State Librarian,  
The Library of Virginia, 11th Street at Capitol Square,  
Richmond, VA 23219, telephone (804) 786-2332.

## STATE COUNCIL ON LOCAL DEBT

**October 18, 1995 - 11 a.m.** -- Open Meeting  
**November 15, 1995 - 11 a.m.** -- Open Meeting  
**December 20, 1995 - 11 a.m.** -- Open Meeting  
James Monroe Building, 101 North 14th Street, Treasury  
Board Conference Room, Richmond, Virginia. ♿

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## Calendar of Events

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A regular meeting subject to cancellation unless there are action items requiring the council's consideration. Persons interested in attending should call one week prior to the meeting to ascertain whether or not the meeting is to be held as scheduled.

**Contact:** Gary Ometer, Debt Manager, Department of the Treasury, P.O. Box 1879, Richmond, VA 23215, telephone (804) 225-4928.

### COMMISSION ON LOCAL GOVERNMENT

† **November 20, 1995 - 10 a.m.** -- Open Meeting  
Eighth Street Office Building, Room 702, Richmond, Virginia.

A regular meeting of the commission to consider such matters as may be presented. Persons desiring to participate in the meeting and requiring special accommodations or interpreter services should contact the commission.

**Contact:** Barbara Bingham, Administrative Assistant, Commission on Local Government, 702 8th Street Office Bldg., Richmond, VA 23219-1924, telephone (804) 786-6508 or (804) 786-1860/TDD ☎

† **January 8, 1996 - 10:30 a.m.** -- Open Meeting  
Town of Round Hill; site to be determined.

Oral presentations regarding the Town of Round Hill - County of Loudoun Agreement Refining Annexation Rights. Persons desiring to participate in the meeting and requiring special accommodations or interpreter services should contact the commission.

**Contact:** Barbara Bingham, Administrative Assistant, Commission on Local Government, 702 8th Street Office Bldg., Richmond, VA 23219-1924, telephone (804) 786-6508 or (804) 786-1860/TDD ☎

† **January 8, 1996 - 7 p.m.** -- Public Hearing  
Town of Round Hill; site to be determined.

A public hearing regarding the Town of Round Hill - County of Loudoun Agreement Refining Annexation Rights. Persons desiring to participate in the meeting and requiring special accommodations or interpreter services should contact the commission.

**Contact:** Barbara Bingham, Administrative Assistant, Commission on Local Government, 702 8th Street Office Bldg., Richmond, VA 23219-1924, telephone (804) 786-6508 or (804) 786-1860/TDD ☎

† **January 9, 1996 - 9 a.m.** -- Open Meeting  
Leesburg area; site to be determined.

A regular meeting of the commission to consider such matters as may be presented. Persons desiring to participate in the meeting and requiring special accommodations or interpreter services should contact the commission.

**Contact:** Barbara Bingham, Administrative Assistant, Commission on Local Government, 702 8th Street Office Bldg., Richmond, VA 23219-1924, telephone (804) 786-6508 or (804) 786-1860/TDD ☎

### LONGWOOD COLLEGE

#### Board of Visitors

† **October 21, 1995 - Noon** -- Open Meeting

† **October 22, 1995 - Noon** -- Open Meeting  
Ramada Oceanfront, Oceanfront at 57th Street, Virginia Beach, Virginia.

A retreat and meeting to conduct business of the Board of Visitors.

**Contact:** William F. Dorrill, President, Longwood College, 201 High St., Farmville, VA 23909, telephone (804) 395-2001.

### MARINE RESOURCES COMMISSION

**October 24, 1995 - 9:30 a.m.** -- Open Meeting  
Marine Resources Commission, 2600 Washington Avenue, 4th Floor, Room 403, Newport News, Virginia. ☎ (Interpreter for the deaf provided upon request)

The commission will hear and decide marine environmental matters at 9:30 a.m.; permit applications for projects in wetlands, bottom lands, coastal primary sand dunes and beaches; appeals of local wetland board decisions; policy and regulatory issues. The commission will hear and decide fishery management items at approximately noon. Items to be heard are as follows: regulatory proposals, fishery management plans; fishery conservation issues; licensing; shellfish leasing. Meetings are open to the public. Testimony will be taken under oath from parties addressing agenda items on permits and licensing. Public comments will be taken on resource matters, regulatory issues and items scheduled for public hearing. The commission is empowered to promulgate regulations in the areas of marine environmental management and marine fishery management.

**Contact:** Sandra S. Schmidt, Secretary to the Commission, Marine Resources Commission, P.O. Box 756, Newport News, VA 23607-0756, telephone (804) 247-8088, toll-free 1-800-541-4646 or (804) 247-2292/TDD ☎

### BOARD OF MEDICAL ASSISTANCE SERVICES

**October 17, 1995 - 10 a.m.** -- Open Meeting  
Department of Medical Assistance Services, 600 East Broad Street, Suite 1300, Richmond, Virginia. ☎

An open meeting to discuss medical assistance service and to take action on issues pertinent to the board.

**Contact:** Cynthia Klisz, Board Liaison, Department of Medical Assistance Services, 600 East Broad St., Richmond, VA 23219, telephone (804) 786-8099.

## BOARD OF MEDICINE

† **October 26, 1995 - 9:30 a.m.** -- Open Meeting  
 Department of Health Professions, 6606 West Broad Street,  
 5th Floor, Conference Room 3, Richmond, Virginia. ☎

The Informal Conference Committee composed of three members of the board will inquire into allegations that certain practitioners may have violated laws and regulations governing the practice of medicine and other healing arts in Virginia. The committee will meet in open and closed sessions pursuant to § 2.1-344 A 7 and A 15 of the Code of Virginia. Public comment will not be received.

**Contact:** Karen W. Perrine, Deputy Executive Director, Department of Health Professions, 6606 W. Broad St., Richmond, VA 23230, telephone (804) 662-7693, FAX (804) 662-9943 or (804) 662-7197/TDD ☎

## DEPARTMENT OF MENTAL HEALTH, MENTAL RETARDATION AND SUBSTANCE ABUSE SERVICES

### State Human Rights Committee

† **November 3, 1995 - 9 a.m.** -- Open Meeting  
 Piedmont Geriatric Hospital, Burkeville, Virginia.

A regular meeting to discuss business and conduct hearings relating to human rights issues. Agenda items are listed for the meeting.

**Contact:** Theresa P. Evans, Acting State Human Rights Director, Department of Mental Health, Mental Retardation and Substance Abuse Services, 109 Governor St., Richmond, VA 23219, telephone (804) 786-3988 or (804) 371-8977/TDD ☎

## STATE MENTAL HEALTH, MENTAL RETARDATION AND SUBSTANCE ABUSE SERVICES BOARD

† **October 29, 1995 - Noon** -- Open Meeting  
 † **October 30, 1995 - 9 a.m.** -- Open Meeting  
 Mimslyn Inn, 401 West Main Street, Luray, Virginia. ☎

The board will meet in regular session to discuss policy issues facing the system of mental health, mental retardation and substance abuse services. For more information, call Jane Helfrich. An agenda will be available on October 20, 1995.

**Contact:** Jane Helfrich, Board Administrator, 109 Governor St., Richmond, VA 23218, telephone (804) 786-7945.

## VIRGINIA MILITARY INSTITUTE

### Board of Visitors

**October 28, 1995 - 8:30 a.m.** -- Open Meeting

Smith Hall Board Room, Virginia Military Institute, Lexington, Virginia. ☎

A regular meeting of the Board of Visitors to receive committee reports. Public comment will not be received at this meeting. Public comment is received at the August meeting of the board.

**Contact:** Colonel Edwin L. Dooley, Jr., Secretary to the Board, Superintendent's Office, Virginia Military Institute, Lexington, VA 24450, telephone (540) 464-7206.

## DEPARTMENT OF MINES, MINERALS AND ENERGY

### Board of Mineral Mining Examiners

**November 15, 1995 - 10 a.m.** -- Public Hearing  
 Division of Mineral Mining, Fontaine Research Park, 900 Natural Resources Drive, Charlottesville, Virginia.

**December 1, 1995** -- Public comments may be submitted until this date.

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Board of Mineral Mining Examiners intends to adopt regulations entitled: **VR 480-04-3. Certification Requirements for Mineral Miners.** The purpose of the proposed regulation is to establish a separate regulation setting requirements for the certification of mineral miners.

Statutory Authority: § 45.1-161.46 of the Code of Virginia.

**Contact:** Conrad T. Spangler, Chairman, Board of Mineral Mining Examiners, Division of Mineral Mining, P.O. Box 3727, Fontaine Research Park, 900 Natural Resources Dr., Charlottesville, VA 22903-0727, telephone (804) 961-5000.

## MOTOR VEHICLE DEALER BOARD

**October 25, 1995 - 9 a.m.** -- Open Meeting  
**November 21, 1995 - 9 a.m.** -- Open Meeting  
 Department of Motor Vehicles Headquarters, 2300 West Broad Street, Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

A meeting to conduct general board business. Persons desiring to participate in the meeting and requiring special accommodations or interpreter services should contact the Department of Motor Vehicles (DMV) at (804) 367-6606 at least 10 days prior to the meeting so that suitable arrangements can be made. DMV and the board fully comply with the Americans with Disabilities Act. A tentative agenda will be provided upon request by contacting the Department of Motor Vehicles. A public comment period will be provided at the beginning of the meeting. Public comment will be subject to the board's "Guidelines for Public Comment."

**Contact:** W. Gail Morykon, Chief, Investigative Services, Department of Motor Vehicles, P.O. Box 27412, Richmond, VA 23269-0001, telephone (804) 367-6002, FAX (804) 367-2936 or (804) 272-9278/TDD ☎

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# Calendar of Events

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## DEPARTMENT OF MOTOR VEHICLES

### Medical Advisory Board

**November 8, 1995 - 1 p.m.** -- Open Meeting  
Department of Motor Vehicles, 2300 West Broad Street,  
Richmond, Virginia ☎

A regular meeting.

**Contact:** Millicent Ford, Program Manager, Department of Motor Vehicles, 2300 W. Broad St., Richmond, VA 23220, telephone (804) 367-2052.

## VIRGINIA MUSEUM OF FINE ARTS

### Collections Committee

**October 16, 1995 - 11 a.m.** -- Open Meeting  
Virginia Museum of Fine Arts, 2800 Grove Avenue, Library,  
Richmond, Virginia ☎

A meeting to consider gifts, purchases and loans of works of art. Public comment will not be received at the meeting.

**Contact:** Emily C. Robertson, Secretary of the Museum, Virginia Museum of Fine Arts, 2800 Grove Ave., Richmond, VA 23221-2466, telephone (804) 367-0553.

### Finance Committee

**October 19, 1995 - 11 a.m.** -- Open Meeting  
Virginia Museum of Fine Arts, 2800 Grove Avenue,  
Conference Room, Richmond, Virginia ☎

A bi-monthly meeting to review the budget. Public comment will not be received at the meeting.

**Contact:** Emily C. Robertson, Secretary of the Museum, Virginia Museum of Fine Arts, 2800 Grove Ave., Richmond, VA 23221-2466, telephone (804) 367-0553.

### Board of Trustees

**October 19, 1995 - Noon** -- Open Meeting  
Virginia Museum of Fine Arts, 2800 Grove Avenue,  
Auditorium, Richmond, Virginia ☎

A bi-monthly meeting of the full Board of Trustees to discuss committee reports, staff reports, and budget review. Public comment will not be received at the meeting.

**Contact:** Emily C. Robertson, Secretary of the Museum, Virginia Museum of Fine Arts, 2800 Grove Ave., Richmond, VA 23221-2466, telephone (804) 367-0553.

## VIRGINIA MUSEUM OF NATURAL HISTORY

### Board of Trustees

**October 28, 1995 - 10 a.m.** -- Open Meeting  
Virginia Museum of Natural History, 1001 Douglas Avenue,  
Martinsville, Virginia ☎

A meeting to include reports from the executive, finance, legislative, marketing, outreach, personnel, planning/facilities, and research and collections committees. Public comment will be received following approval of the minutes of the August meeting.

**Contact:** Rhonda J. Knighton, Executive Secretary, Virginia Museum of Natural History, 1001 Douglas Ave., Martinsville, VA 24112, telephone (540) 666-8616 or (540) 666-8638/TDD ☎

## BOARD OF NURSING

**October 18, 1995 - 10 a.m.** -- Open Meeting  
Court of Appeals, 520 King Street, Courtroom #3, 4th Floor  
Judge's Chamber, Alexandria, Virginia ☎ (Interpreter for the deaf provided upon request)

A meeting to conduct a formal hearing with a licensee. Public comment will not be received.

**Contact:** Corinne F. Dorsey, R.N., Executive Director, Board of Nursing, 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9909, FAX (804) 662-9943 or (804) 662-7197/TDD ☎

## Special Conference Committee

**October 17, 1995 - 9 a.m.** -- Open Meeting  
**October 18, 1995 - 9 a.m.** -- Open Meeting  
**October 19, 1995 - 9 a.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street,  
5th Floor, Richmond, Virginia ☎ (Interpreter for the deaf provided upon request)

A Special Conference Committee, comprised of two members of the Virginia Board of Nursing, will conduct informal conferences with licensees and certificate holders to determine what, if any, action should be recommended to the Board of Nursing. Public comment will not be received.

**Contact:** Corinne F. Dorsey, R.N., Executive Director, Board of Nursing, 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9909, FAX (804) 662-9943 or (804) 662-7197/TDD ☎

## BOARD OF NURSING HOME ADMINISTRATORS

† **November 29, 1995 - 9:30 a.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street,  
Richmond, Virginia ☎

A general board meeting to discuss board business. Public comments will be received at the beginning of the

meeting for 15 minutes. Formal hearings will take place after the board meeting at 1 p.m.

**Contact:** Lisa Russell Hahn, Executive Director, Board of Nursing Home Administrators, 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9907 or (804) 662-7197/TDD ☎

## BOARD OF OPTOMETRY

† **October 24, 1995 - 8 a.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street, 4th Floor, Richmond, Virginia. ☎

A general board meeting. General regulatory review will be conducted. Public comments will be received at the beginning of the meeting. The meeting is subject to cancellation.

**Contact:** Carol Stamey, Administrative Assistant, Southern States Bldg., 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9910 or (804) 662-7197/TDD ☎

† **October 24, 1995 - 12:15 p.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street, 4th Floor, Richmond, Virginia. ☎

A formal hearing. Public comments will be received at the beginning of the meeting. The meeting is subject to cancellation.

**Contact:** Carol Stamey, Administrative Assistant, Southern States Bldg., 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9910 or (804) 662-7197/TDD ☎

† **October 24, 1995 - 2:30 p.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street, 4th Floor, Richmond, Virginia. ☎

Informal conferences. Public comments will be received at the beginning of the meeting. The meeting is subject to cancellation.

**Contact:** Carol Stamey, Administrative Assistant, Southern States Bldg., 6606 W. Broad St., 4th Floor, Richmond, VA 23230-1717, telephone (804) 662-9910 or (804) 662-7197/TDD ☎

## VIRGINIA OUTDOORS FOUNDATION

† **October 30, 1995 - 10 a.m.** -- Open Meeting  
Aldie Mill, Route 50, Aldie, Virginia.

A regular meeting of the Board of Trustees. Agenda available upon request. Public comment will be received.

**Contact:** Tamara Ann Vance, Executive Director, Virginia Outdoors Foundation, 203 Governor St., Richmond, VA 23219, telephone (804) 225-2147 or FAX (804) 692-0567.

## BOARD OF PHARMACY

**October 25, 1995 - 9 a.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street, 5th Floor, Conference Room 2, Richmond, Virginia.

Formal hearings before a panel of the board. No public comment will be received.

**Contact:** Scotti W. Milley, Executive Director, Board of Pharmacy, 6606 W. Broad St., 4th Floor, Richmond, VA 23230, telephone (804) 662-9911.

**October 26, 1995 - 9 a.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street, 5th Floor, Conference Room 2, Richmond, Virginia.

A meeting of the board. This is a public meeting and there will be a 15 minute public comment period from 9:15 to 9:30 a.m.

**Contact:** Scotti W. Milley, Executive Director, Board of Pharmacy, 6606 W. Broad St., 4th Floor, Richmond, VA 23230, telephone (804) 662-9911.

## POLYGRAPH EXAMINERS ADVISORY BOARD

† **November 28, 1995 - 10 a.m.** -- Open Meeting  
Department of Professional and Occupational Regulation, 3600 West Broad Street, 4th Floor, Richmond, Virginia. ☎  
(Interpreter for the deaf provided upon request)

The board will meet to review new enforcement procedures, administer the polygraph examiners licensing examination to eligible polygraph examiner interns and to consider other matters which may require board action. A public comment period will be scheduled at the beginning of the meeting. Persons desiring to participate in the meeting and requiring special accommodations or interpreter services should contact the board at least 10 days prior to the meeting. The department fully complies with the Americans with Disabilities Act.

**Contact:** Nancy Taylor Feldman, Assistant Director, Department of Professional and Occupational Regulation, 3600 W. Broad St., Richmond, VA 23230-4917, telephone (804) 367-8590, FAX (804) 367-2474 or (804) 367-9753/TDD ☎

## PRIVATE SECURITY SERVICES ADVISORY BOARD

† **October 26, 1995 - 9 a.m.** -- Open Meeting  
Ramada Tower Resort, 57th and Atlantic, Virginia Beach, Virginia.

A meeting to discuss private security industry issues.

**Contact:** Roy Huhta, Assistant, Department of Criminal Justice Services, Private Security Section, P.O. Box 10110, Richmond, VA 23240-9998, telephone (804) 786-4700.

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## Calendar of Events

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### BOARD FOR PROFESSIONAL AND OCCUPATIONAL REGULATION

† **November 20, 1995 - 10 a.m.** -- Open Meeting  
Department of Professional and Occupational Regulation,  
3600 West Broad Street, Richmond, Virginia. ☎

A general business meeting. Persons desiring to participate in the meeting and requiring special accommodations or interpreter services should contact the board at least 10 days prior to the meeting. The department fully complies with the Americans with Disabilities Act.

**Contact:** Debra S. Vought, Agency Analyst, Department of Professional and Occupational Regulation, 3600 W. Broad St., Richmond, VA 23230-4917, telephone (804) 367-8519, or (804) 367-9753/TDD ☎

### PROTECTION AND ADVOCACY FOR INDIVIDUALS WITH MENTAL ILLNESS ADVISORY COUNCIL

† **October 19, 1995 - 9 a.m.** -- Open Meeting  
Department of Rehabilitative Services, 8004 Franklin Farms Drive, Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

A regularly scheduled meeting with public comment at 9 a.m.

**Contact:** Loretta Petty, Policy Coordinator, Protection and Advocacy for Individuals with Mental Illness Advisory Council, James Monroe Bldg., 101 N. 14th St., 17th Floor, Richmond, VA 23219, telephone (804) 225-2042 (Voice and TDD), FAX (804) 225-3221 or toll-free 1-800-552-3962.

### BOARD OF PSYCHOLOGY

**October 17, 1995 - 10:30 a.m.** -- Open Meeting  
Department of Health Professions, 6606 West Broad Street, 5th Floor, Conference Room 4, Richmond, Virginia. ☎

A meeting to conduct general board business and to approve draft regulations for sex offender treatment providers. Public comment will be received between 10:45 a.m. and 11 a.m.

**Contact:** Janet Delorme, Deputy Executive Director, Board of Psychology, 6606 W. Broad Street, 4th Floor, Richmond, VA 23230, telephone (804) 662-9575 or FAX (804) 662-9943.

### VIRGINIA PUBLIC TELECOMMUNICATIONS BOARD

**October 19, 1995 - 10 a.m.** -- Open Meeting  
Department of Information Technology, Plaza Building, 110 South 7th Street, 1st Floor East, Richmond, Virginia.

A quarterly meeting. The agenda will include an update on the Infrastructure Task Force, approval of Executive Committee actions on contracts for 1995-96, budget requests for 1996-98, and updates on other items of interest.

**Contact:** Judy Garnett, Executive Secretary Senior, Department of Information Technology, 110 S. 7th St., 3rd Floor, Richmond, VA 23219, telephone (804) 344-5601.

### REAL ESTATE BOARD

**November 9, 1995 - 8:30 a.m.** -- Open Meeting  
Department of Professional and Occupational Regulation,  
3600 West Broad Street, Richmond, Virginia. ☎

A regular business meeting to include review of investigative matters, consideration of applications, various requests to the board for information, and other business.

**Contact:** Emily O. Wingfield, Acting Assistant Director, Department of Professional and Occupational Regulation, 3600 W. Broad St., Richmond, VA 23230, telephone (804) 367-8552, or (804) 367-9753/TDD ☎

### VIRGINIA RECYCLING MARKETS DEVELOPMENT COUNCIL

† **October 19, 1995 - 11 a.m.** -- Open Meeting  
State Capitol, Capitol Square, House Room One, Richmond, Virginia.

The council will continue work on developing and monitoring a plan to strengthen Virginia's recycling infrastructure and markets; setting forth strategies primarily designed to improve the supply, quantity, and quality of recyclables; and providing strategies for increasing the demand for recycled products and expanding the capacity of collectors, processors, and manufacturers to handle and use specified recyclable materials. Subcommittee meetings, if appropriate, will be held from 9 a.m. to 11 a.m. prior to the general council meeting. Committee meetings will be held if appropriate. Call Paddy Katzen for details.

**Contact:** Paddy Katzen, Assistant to Secretary of Natural Resources, Department of Environmental Quality, 629 E. Main St., Richmond, VA 23219, telephone (804) 762-4488.

### STATE REHABILITATION ADVISORY COUNCIL

**October 27, 1995 - 10 a.m.** -- Open Meeting  
Department of Rehabilitative Services, 8004 Franklin Farms Drive, Richmond, Virginia. ☎ (Interpreter for the deaf provided upon request)

A meeting to conduct regular business of the council.

**Contact:** Kathy Hayfield, SRAC Staff, Department of Rehabilitative Services, 8004 Franklin Farms Dr., Richmond, VA 23230, telephone (804) 662-7134, toll-free 1-800-552-5019/TDD and Voice, or (804) 662-9040/TDD ☎

## BOARD OF REHABILITATIVE SERVICES

**November 30, 1995 - 10 a.m.** -- Open Meeting  
Department of Rehabilitative Services, 8004 Franklin Farms Drive, Richmond, Virginia. (Interpreter for the deaf provided upon request)

A quarterly business meeting.

**Contact:** Dr. Ronald C. Gordon, Commissioner, Department of Rehabilitative Services, 8004 Franklin Farms Dr., Richmond, VA 23230, telephone (804) 662-7010, toll-free 1-800-552-5019/TDD and Voice or (804) 662-9040/TDD

## VIRGINIA RESOURCES AUTHORITY

**November 14, 1995 - 9:30 a.m.** -- Open Meeting  
The Mutual Building, 909 East Main Street, Suite 607, Board Room, Richmond, Virginia.

The board will meet to approve minutes of the meeting of the prior month; to review the Authority's operations for the prior months; and to consider other matters and take other actions as it may deem appropriate. The planned agenda of the meeting will be available at the offices of the Authority one week prior to the date of the meeting. Public comments will be received at the beginning of the meeting.

**Contact:** Shockley D. Gardner, Jr., Virginia Resources Authority, 909 E. Main St., Suite 607, Mutual Building, Richmond, VA 23219, telephone (804) 644-3100 or FAX (804) 644-3109.

## RICHMOND HOSPITAL AUTHORITY

### Board of Commissioners

**October 26, 1995 - 4 p.m.** -- Open Meeting  
Richmond Nursing Home, 1900 Cool Lane, 2nd Floor, Classroom, Richmond, Virginia.

A monthly board meeting to discuss nursing home operations and related matters.

**Contact:** Marilyn H. West, Chairman, Richmond Hospital Authority, P.O. Box 548, Richmond, VA 23204-0548, telephone (804) 782-1938.

## SEWAGE HANDLING AND DISPOSAL APPEALS REVIEW BOARD

**November 1, 1995 - 10 a.m.** -- Open Meeting  
**November 2, 1995 - 10 a.m.** -- Open Meeting  
General Assembly Building, Senate Room A, Capitol Square, Ninth and Broad Streets, Richmond, Virginia.

The board will hear all administrative appeals of denials of onsite sewage disposal systems permits pursuant to §§ 32.1-166.1 et seq. and 9-6.14:12 of the Code of Virginia and VR 355-34-02.

**Contact:** Beth B. Dubis, Secretary to the Board, Sewage Handling and Disposal Appeals Review Board, 1500 E. Main St., Suite 117, P.O. Box 2448, Richmond, VA 23218, telephone (804) 786-1750.

## VIRGINIA SMALL BUSINESS ADVISORY BOARD

**October 25, 1995 - 9 a.m.** -- Open Meeting  
Department of Economic Development, Riverfront Towers West, 901 East Byrd Street, 19th Floor Board Room, Richmond, Virginia.

A regular meeting of the board.

**Contact:** Laura McElligott, Associate State Director, Department of Economic Development, 901 E. Byrd St., Suite 1800, Richmond, VA 23219, telephone (804) 371-8251.

## STATE BOARD OF SOCIAL SERVICES

**October 18, 1995 - 1:30 p.m.** -- Open Meeting  
**October 19, 1995 - 9 a.m. (if necessary)** -- Open Meeting  
Omni Newport News Hotel, 1000 Batten Bay Boulevard, Newport News, Virginia.

**November 15, 1995 - 1:30 p.m.** -- Open Meeting  
**November 16, 1995 - 9 a.m. (if necessary)** -- Open Meeting  
Wythe Building, Koger Executive Center, 1604 Santa Rosa Road, Richmond, Virginia.

A work session and formal business meeting of the board.

**Contact:** Phyllis Sisk, Special Assistant to the Commissioner, State Board of Social Services, 730 E. Broad St., Richmond, VA 23219, telephone (804) 692-1900, FAX (804) 692-1949, toll-free 1-800-552-7096 or 1-800-552-3431/TDD

## COMMONWEALTH TRANSPORTATION BOARD

**October 18, 1995 - 2 p.m.** -- Open Meeting  
Department of Transportation, 1401 East Broad Street, Richmond, Virginia. (Interpreter for the deaf provided upon request)

A work session of the board and the Department of Transportation staff.

**Contact:** Robert E. Martinez, Secretary of Transportation, 1401 E. Broad St., Richmond, VA 23219, telephone (804) 786-8032.

**October 19, 1995 - 10 a.m.** -- Open Meeting  
Department of Transportation, 1401 East Broad Street, Richmond, Virginia. (Interpreter for the deaf provided upon request)

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## Calendar of Events

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A monthly meeting of the board to vote on proposals presented regarding bids, permits, additions and deletions to the highway system, and any other matters requiring board approval. Public comment will be received at the outset of the meeting on items on the meeting agenda for which the opportunity for public comment has not been afforded the public in another forum. Remarks will be limited to five minutes. Large groups are asked to select one individual to speak for the group. The board reserves the right to amend these conditions. Separate committee meetings may be held on call of the Chairman. Contact VDOT Public Affairs at (804) 786-2715 for schedule.

**Contact:** Robert E. Martinez, Secretary of Transportation, 1401 E. Broad St., Richmond, VA 23219, telephone (804) 786-8032.

### TREASURY BOARD

**October 18, 1995 - 9 a.m.** -- Open Meeting  
**November 15, 1995 - 9 a.m.** -- Open Meeting  
**December 20, 1995 - 9 a.m.** -- Open Meeting  
James Monroe Building, 101 North 14th Street, Treasury Board Conference Room, 3rd Floor, Richmond, Virginia. ☎

A regular meeting.

**Contact:** Gloria J. Hatchel, Administrative Assistant, Department of the Treasury, Monroe Bldg., 101 N. 14th St., Richmond, VA 23219, telephone (804) 371-6011.

### BOARD OF VETERINARY MEDICINE

† **November 15, 1995 - 9 a.m.** -- Public Hearing  
Department of Health Professions, 6606 West Broad Street, 5th Floor, Richmond, Virginia.

† **December 15, 1995** -- Public comments may be submitted until this date.

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Board of Veterinary Medicine intends to amend regulations entitled: **VR 645-01-1 [ 18 VAC 150-20-10 et seq. ] Regulations Governing Veterinary Medicine**. The board proposes a one-time, two-year reduction in fees for licensure and renewals and a permanent reduction in the state jurisprudence exam fee.

Statutory Authority: §§ 54.1-113 and 54.1-2400 of the Code of Virginia.

**Contact:** Elizabeth Carter, Executive Director, Board of Veterinary Medicine, 6606 W. Broad St., Richmond, VA 23230, telephone (804) 662-9915.

### VIRGINIA RACING COMMISSION

† **October 18, 1995 - 9:30 a.m.** -- Open Meeting  
Tyler Building, 1300 East Main Street, Richmond, Virginia. ☎

In addition to a regular commission meeting, the commission will discuss a proposed medication regulation and hold a hearing on a proposed satellite facility located in Richmond.

**Contact:** William H. Anderson, Policy Analyst, Virginia Racing Commission, P.O. Box 1123, Richmond, VA 23208, telephone (804) 371-7363.

### BOARD FOR THE VISUALLY HANDICAPPED

**October 19, 1995 - 1:30 p.m.** -- Open Meeting  
Department for the Visually Handicapped, Administrative Headquarters, 397 Azalea Avenue, Richmond, Virginia. ☎  
(Interpreter for the deaf provided if requested no later than 5 p.m. on October 5, 1995)

The Board for the Visually Handicapped is an advisory board responsible for advising the Governor, the Secretary of Health and Human Resources, the Commissioner, and the General Assembly on the delivery of public services to the blind and the protection of their rights. The board also reviews and comments on policies, budgets and requests for appropriations for the department. At this regular quarterly meeting, the board members will receive information regarding department activities and operations, review expenditures from the board's institutional fund, and discuss other issues raised by board members.

**Contact:** Katherine C. Proffitt, Administrative Assistant, Department for the Visually Handicapped, 397 Azalea Ave., Richmond, VA 23227, telephone (804) 371-3140/TDD ☎ or toll-free 1-800-622-2155.

### DEPARTMENT FOR THE VISUALLY HANDICAPPED

#### Vocational Rehabilitation Council

† **December 9, 1995 - 10 a.m.** -- Open Meeting  
Department for the Visually Handicapped, Administrative Headquarters, 397 Azalea Avenue, Richmond, Virginia. ☎  
(Interpreter for the deaf provided upon request)

A quarterly meeting to advise the Department for the Visually Handicapped on matters related to vocational rehabilitation services for the blind and visually impaired citizens of the Commonwealth. Requests for interpreter services must be received no later than November 24, 1995.

**Contact:** James G. Taylor, Vocational Rehabilitation Program Specialist, Department for the Visually Handicapped, 397 Azalea Ave., Richmond, VA 23227, telephone (804) 371-3140/TDD ☎ or toll-free 1-800-622-2155.

## VIRGINIA VOLUNTARY FORMULARY BOARD

**October 18, 1995 - 10 a.m.** -- Public Hearing  
James Madison Building, 109 Governor Street, Main Floor,  
Conference Room, Richmond, Virginia.

The board will hold a public hearing to consider the proposed adoption and issuance of revisions to the Virginia Voluntary Formulary. The proposed revisions to the Formulary add and delete drugs and drug products to the Formulary that became effective on May 1, 1994. Copies of the proposed revisions to the Formulary are available for inspection at the Virginia Department of Health, Bureau of Pharmacy Services, James Madison Building, 109 Governor Street, Richmond, Virginia 23219. Written comments sent to the above address and received prior to 5 p.m. on October 18, 1995, will be made a part of the hearing record.

**Contact:** James K. Thomson, Director, Bureau of Pharmacy Services, 109 Governor St., Room B1-9, Richmond, VA 23219, telephone (804) 786-4326.

**November 30, 1995 - 10:30 a.m.** -- Open Meeting  
Washington Building, 1100 Bank Street, 2nd Floor Board Room, Richmond, Virginia.

A meeting to consider public hearing comments and review new product data for products being considered for inclusion in the Virginia Voluntary Formulary.

**Contact:** James K. Thomson, Director, Bureau of Pharmacy Services, 109 Governor St., Room B1-9, Richmond, VA 23219, telephone (804) 786-4326.

## VIRGINIA WASTE MANAGEMENT BOARD

**October 19, 1995 - 10:30 a.m.** -- Open Meeting  
Department of Environmental Quality, 4900 Cox Road, Board Room, Richmond, Virginia. ♿ (Interpreter for the deaf provided upon request)

A meeting to obtain comments from the public on the Virginia Solid Waste Management Regulations (VR 672-20-10). These comments will form the basis for Amendment 2 that is the subject of the Notice of Intended Regulatory Action published in Volume 11, Issue 26 of the Virginia Register.

**Contact:** Walt Gulevich, Department of Environmental Quality, Waste Division, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4021.

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**October 23, 1995 - 1 p.m.** -- Public Hearing  
Norfolk City Council Chambers, City Hall Building, 810 Union Street, 11th Floor, Norfolk, Virginia.

**October 24, 1995 - 2 p.m.** -- Public Hearing  
War Memorial Auditorium, 621 South Belvidere Street, Richmond, Virginia.

**October 25, 1995 - 2 p.m.** -- Public Hearing

Roanoke County Board of Supervisors Room, 5204 Bernard Drive, Roanoke, Virginia.

**November 20, 1995** -- Public comments may be submitted until 4 p.m. on this date.

Notice is hereby given in accordance with § 9-6.14:7.1 of the Code of Virginia that the Virginia Waste Management Board intends to amend regulations entitled: **VR 672-30-1. Regulations Governing the Transportation of Hazardous Materials.** The purpose of the proposed amendment is to incorporate recent changes to federal regulations governing hazardous materials transport and motor carrier safety and new state law requiring a register of shippers.

Statutory Authority: §§ 10.1-1402, 10.1-1450 and 44-146.30 of the Code of Virginia.

**Contact:** Julia King-Collins, Office of Enforcement, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4247.

## STATE WATER CONTROL BOARD

**October 18, 1995 - 2 p.m.** -- Open Meeting  
Department of Environmental Quality, 4900 Cox Road, Board Room, Richmond, Virginia. ♿ (Interpreter for the deaf provided upon request)

The board will receive comments and views from the public on the State Water Control Board's intent to adopt/readopt regulations governing General Permits for Discharges from fish farms, sewage discharges of less than or equal to 1,000 gallons per day, ready-mixed concrete facilities, car washes and cooling tower discharges to municipal separate storm sewer systems.

**Contact:** Richard Ayers, Water Division, Office of Water Resources Management, Department of Environmental Quality, P.O. Box 10009, Richmond, VA 23240, telephone (804) 762-4075.

**October 26, 1995 - 1 p.m.** -- Open Meeting  
Municipal Building, 112 North Main Street, Board of Supervisor's Room, Bridgewater, Virginia.

The Department of Environmental Quality staff is scheduling meetings of the North River Surface Water Management Area Advisory Group. The advisory group assists in determining appropriateness of a designation, the boundary of the SWMA area and the minimum instream flow level that will activate the surface water withdrawal permits/certificates, and review any local agreements among water withdrawers in the North River. Another tentatively scheduled meeting is Thursday, November 30, 1995. Contact the Department of Environmental Quality prior to the meeting date so as to be informed of any changes in meeting time, location or cancellation or postponement.

**Contact:** Tom Mizell, Environmental Manager - Field, Department of Environmental Quality, Valley Regional Office, 116 N. Main St., P.O. Box 268, Bridgewater, VA 22812, telephone (703) 828-2595 or FAX (703) 828-4016.

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# Calendar of Events

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## INDEPENDENT

### STATE LOTTERY BOARD

† **October 25, 1995 - 9:30 a.m.** -- Open Meeting  
† **November 29, 1995 - 9:30 a.m.** -- Open Meeting  
State Lottery Department, 900 East Main Street, 8th Floor, Conference Room, Richmond, Virginia. (Interpreter for the deaf provided upon request)

A regular meeting of the board. Business will be conducted according to items listed on the agenda which has not yet been determined. One period for public comment is scheduled.

**Contact:** Barbara L. Robertson, Legislative, Regulatory and Board Administrator, State Lottery Department, 900 E. Main St., Richmond, VA 23219, telephone (804) 692-7774 or FAX (804) 692-7775.

## JUDICIAL

### VIRGINIA CRIMINAL SENTENCING COMMISSION

**October 30, 1995 - 10 a.m.** -- Open Meeting  
100 North 9th Street, 3rd Floor, Judicial Conference Room, Richmond, Virginia. (Interpreter for the deaf provided upon request)

A regular quarterly meeting of the commission to review sentencing guidelines, compliance rates, and the work of commission subcommittees.

**Contact:** Dr. Richard Kern, Director, Virginia Criminal Sentencing Commission, 100 N. 9th St., 5th Floor, Richmond, VA 23219, telephone (804) 225-4565 or (804) 225-4398, or FAX (804) 786-3934.

## LEGISLATIVE

### COMMISSION ON YOUTH

**November 21, 1995 - 11 a.m.** -- Open Meeting  
**November 21, 1995 - 1 p.m.** -- Public Hearing  
General Assembly Building, 910 Capitol Square, House Room C, Richmond, Virginia. (Interpreter for the deaf provided upon request)

A meeting of the Juvenile Justice System Study Task Force for dissemination of draft legislative proposals. A public hearing will be held at 1 p.m. on proposals. HJR 604.

**Contact:** Joyce Huey, General Assembly Bldg., 910 Capitol St., Suite 517B, Richmond, VA 23219-0406, telephone (804) 371-2481.

**December 13, 1995 - 10 a.m.** -- Open Meeting

General Assembly Building, 910 Capitol Square, House Room D, Richmond, Virginia. (Interpreter for the deaf provided upon request)

A meeting of the Juvenile Justice System Study Task Force to discuss Task Force approval of legislation and final report. HJR 604.

**Contact:** Joyce Huey, General Assembly Bldg., 910 Capitol St., Suite 517B, Richmond, VA 23219-0406, telephone (804) 371-2481.

## CHRONOLOGICAL LIST

### OPEN MEETINGS

#### October 16

Air Pollution, State Advisory Board on Alcoholic Beverage Control Board  
† Emergency Planning Committee, Emergency - Prince William County, Manassas City and Manassas Park City Forestry, Board of Museum of Fine Arts, Virginia  
- Collections Committee

#### October 17

Air Pollution, State Advisory Board on  
† Corrections, Board of  
- Corrections Services Committee  
Environmental Quality, Department of  
- Litter Control and Recycling Fund Advisory Board  
Forestry, Board of  
Medical Assistance Services, Board of  
Nursing, Board of  
Psychology, Board of

#### October 18

† Agriculture and Consumer Services, Department of  
- Virginia Farmers' Market Board  
Auctioneers Board  
† Corrections, Board of  
- Administration Committee  
Historic Resources, Board of  
- State Review Board  
Local Debt, State Council on  
Nursing, Board of  
Social Services, State Board of  
Transportation Board, Commonwealth  
Treasury Board  
† Virginia Racing Commission  
Voluntary Formulary Board, Virginia  
Water Control Board, State

#### October 19

Conservation and Recreation, Department of  
- Falls of the James Scenic River Advisory Board  
† Fire Services Board, Virginia  
- Fire/EMS Education and Training Committee  
- Fire Prevention and Control Committee  
- Legislative/Liaison Committee  
† Health, Department of  
- Biosolids Use Information Committee

# Calendar of Events

- Biosolids Use Regulations Advisory Committee
- Museum of Fine Arts, Virginia
- Finance Committee
- Board of Trustees
- Nursing, Board of
- † Protection and Advocacy for Individuals with Mental Illness Advisory Council
- Public Telecommunication Board, Virginia
- † Recycling Markets Development Council, Virginia
- Social Services, State Board of
- Transportation Board, Commonwealth
- Visually Handicapped, Board for the
- Waste Management Board, Virginia

## October 20

- † Fire Services Board, Virginia
- Higher Education for Virginia, State Council of
- Housing and Community Development, Department of
- State Building Code Technical Review Board

## October 21

- † Longwood College
- Board of Visitors

## October 22

- † Longwood College
- Board of Visitors

## October 23

- Accountancy, Board for

## October 24

- Accountancy, Board for
- Agriculture and Consumer Services, Department of
- Virginia Egg Board
- Aviation Board, Virginia
- Health Services Cost Review Council, Virginia
- Housing Development Authority, Virginia
- Marine Resources Commission
- † Optometry, Board of

## October 25

- Aviation Board, Virginia
- Conservation and Recreation, Department of
- Board on Conservation and Development of Public Beaches
- Environmental Quality, Department of
- † Lottery Board, State
- Motor Vehicle Dealer Board
- Pharmacy, Board of
- Small Business Advisory Board, Virginia

## October 26

- † Agriculture and Consumer Services, Department of
- Virginia Cattle Industry Board
- † Economic Development Partnership, Virginia
- Board of Directors
- Education, Board of
- † Library of Virginia
- State Networking Users Advisory Board
- † Medicine, Board of
- Pharmacy, Board of
- † Private Security Services Advisory Board
- Richmond Hospital Authority
- Board of Commissioners

Water Control Board, State

## October 27

- † Agriculture and Consumer Services, Department of
- Virginia Cattle Industry Board
- Rehabilitation Advisory Council, State

## October 28

- Virginia Military Institute
- Board of Visitors
- Museum of Natural History, Virginia
- Board of Trustees

## October 29

- † Mental Health, Mental Retardation and Substance Abuse Services, State

## October 30

- Alcoholic Beverage Control Board
- Criminal Sentencing Commission, Virginia
- † Employment Commission, Virginia
- State Advisory Board

- † Mental Health, Mental Retardation and Substance Abuse Services, State

- † Outdoors Foundation, Virginia

## November 1

- Agriculture and Consumer Services, Department of
- Virginia Seed Potato Board
- Criminal Justice Services Board
- Committee on Training
- Health, Department of
- Sewage Handling and Disposal Appeals Review Board
- † Visually Handicapped, Department for the
- Advisory Board

## November 2

- Chesapeake Bay Local Assistance Board
- Central Area Review Committee
- Southern Area Review Committee
- Emergency Planning Committee, Local - Chesterfield County
- Sewage Handling and Disposal Appeals Review Board

## November 3

- † Mental Health, Mental Retardation and Substance Abuse Services, Department of
- State Human Rights Committee

## November 7

- Hopewell Industrial Safety Council

## November 8

- † Asbestos Licensing and Lead Certification, Board for
- † Conservation and Recreation, Department of
- Caledon Natural Area Ad Hoc Committee
- † Funeral Directors and Embalmers, Board of
- Motor Vehicles, Department of
- Medical Advisory Board

## November 9

- † Funeral Directors and Embalmers, Board of
- Real Estate Board

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## Calendar of Events

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**November 13**

- † Library of Virginia
  - Library Board
- Mines, Minerals and Energy, Department of
  - Division of Mined Land Reclamation

**November 14**

- Resources Authority, Virginia

**November 15**

- Higher Education, Commission on the Future of
- Local Debt, State Council on
- Social Services, State Board of
- Treasury Board

**November 16**

- † Audiology and Speech-Language Pathology, Board of
- Chesapeake Bay Local Assistance Board
  - Northern Area Review Committee
- Conservation and Recreation, Department of
  - Falls of the James Scenic River Advisory Board
- Education, Board of
- † Environmental Quality, Department of
- † Health, Department of
  - Commissioner's Waterworks Advisory Committee
- Social Services, State Board of

**November 20**

- † Local Government, Commission on
- † Professional and Occupational Regulation, Board for

**November 21**

- Motor Vehicle Dealer Board
- Youth, Commission on

**November 28**

- † Polygraph Examiners Advisory Board

**November 29**

- † Lottery Board, State
- † Nursing Home Administrators, Board of

**November 30**

- Rehabilitative Services, Board of
- Voluntary Formulary Board, Virginia

**December 6**

- Chesapeake Bay Local Assistance Board
  - Northern Area Review Committee

**December 7**

- Chesapeake Bay Local Assistance Board
  - Central Area Review Committee
  - Southern Area Review Committee
- † Emergency Planning Committee, Local - Chesterfield County

**December 9**

- † Visually Handicapped, Department for the
  - Vocational Rehabilitation Advisory Council

**December 13**

- Youth, Commission on

**December 14**

- Agriculture and Consumer Services, Department of
  - Virginia Horse Industry Board

**December 20**

- Local Debt, State Council on
- Treasury Board

**January 8, 1996**

- † Local Government, Commission on

**January 9**

- † Local Government, Commission on

### PUBLIC HEARINGS

**October 16**

- Housing and Community Development, Board of

**October 18**

- Voluntary Formulary Board, Virginia

**October 23**

- Accountancy, Board for
- Waste Management Board, Virginia

**October 24**

- Waste Management Board, Virginia

**October 25**

- Waste Management Board, Virginia

**November 9**

- Air Pollution Control Board, State

**November 13**

- Air Pollution Control Board, State

**November 14**

- Air Pollution Control Board, State

**November 15**

- Mines, Minerals and Energy, Department of
- † Veterinary Medicine, Board of