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## Proposed Regulation Agency Background Document

<b>Agency name</b>	State Water Control Board (Board)
<b>Virginia Administrative Code (VAC) citation(s)</b>	9 VAC 25 - 260
<b>Regulation title(s)</b>	Water Quality Standards
<b>Action title</b>	Triennial Review – Remaining Issues

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 17 (2014) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

### Brief summary

*Please provide a brief summary (preferably no more than 2 or 3 paragraphs) of the proposed new regulation, proposed amendments to the existing regulation, or the regulation proposed to be repealed. Alert the reader to all substantive matters or changes. If applicable, generally describe the existing regulation.*

Changes to the water quality standards are amendments to update the ammonia criteria for the protection of freshwater aquatic life as well as implementation issues and impacts to regulated dischargers, revisions to bacteria criteria for human health protection in recreation waters, revisions to cadmium criteria for the protection of aquatic life; and, amendments to update 94 human health criteria.

This proposal is a continuation of the triennial review of the water quality standards which was the subject of a Notice of Intended Regulatory Action published in the Virginia Register of Regulations on August 12, 2013 (Volume 29, Issue 25). The State Water Control Board, at its meeting on January 14, 2016, adopted amendments to the water quality standards but decided to postpone the adoption of the amendments included in this proposal in response to public comments and concerns and provide the Department of Environmental Quality (DEQ) an opportunity to gather additional information, utilize the most current information and further consult with interested stakeholders on options to address public comments and concerns on these amendments. DEQ reconvened the regulatory advisory panel and after four meetings presented amendments to the Board at their December 2016 meeting and received authorization for public comment on the amendments. (For details of the prior action see <http://townhall.virginia.gov/L/ViewAction.cfm?actionid=4017>).

## Acronyms and Definitions

*Please define all acronyms used in the Agency Background Document. Also, please define any technical terms that are used in the document that are not also defined in the “Definition” section of the regulations.*

DEQ	Department of Environmental Quality
DGIF	Virginia Department of Game and Inland Fisheries
EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VDH	Virginia Department of Health

## Legal basis

*Please identify the state and/or federal legal authority to promulgate this proposed regulation, including: 1) the most relevant citations to the Code of Virginia or General Assembly chapter number(s), if applicable; and 2) promulgating entity, i.e., agency, board, or person. Your citation should include a specific provision authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency/board/person’s overall regulatory authority.*

Section 62.1-44.15(3a) of the Code of Virginia, as amended, mandates and authorizes the State Water Control Board to establish water quality standards and policies for any State waters consistent with the purpose and general policy of the State Water Control Law, and to modify, amend or cancel any such standards or policies established. The federal Clean Water Act (33 U.S.C. §§ 1251 *et seq*) at Section 303(c) mandates the State Water Control Board to review and, as appropriate, modify and adopt water quality standards. The corresponding federal water quality standards regulation at 40 CFR 131.6 describes the minimum requirements for water quality standards, which are use designations, water quality criteria to protect the designated uses and an antidegradation policy. All of the citations mentioned describe mandates for water quality standards.

The State Water Control Law (Virginia Code Title 62.1 – Waters of the State, Ports and Harbors) authorizes protection and restoration of the quality of state waters, safeguarding the clean waters from pollution, prevention and reduction of pollution and promotion of water conservation. The State Water Control Law at §62.1-44.15(3a) requires the Board to establish standards of quality and to modify, amend or cancel any such standards or policies. It also requires the Board to hold public hearings from time to time for the purpose of reviewing the water quality standards, and, as appropriate, adopting, modifying or canceling such standards.

The authority to adopt standards as provided by the provisions in the previously referenced citations is mandated, although the specific standards to be adopted or modified are discretionary to the Environmental Protection Agency and the State.

## Purpose

*Please explain the need for the new or amended regulation. Describe the rationale or justification of the proposed regulatory action. Describe the specific reasons the regulation is essential to protect the health, safety or welfare of citizens. Discuss the goals of the proposal and the problems the proposal is intended to solve.*

The rulemaking is essential to the protection of health, safety or welfare of the citizens of the Commonwealth because proper water quality standards protect water quality and living resources of Virginia's waters for consumption of fish and shellfish, recreational uses and conservation in general.

These standards will be used in setting Virginia Pollutant Discharge Elimination System Permit limits and for evaluating the waters of the Commonwealth for inclusion in the Clean Water Act Section 305(b) water quality characterization report and on the Section 303(d) list of impaired waters. Waters not meeting standards will require development of a Total Maximum Daily Load under the Clean Water Act at Section 303(e). The Water Quality Standards are the cornerstone for all these other programs. It is the goal to provide the citizens of the Commonwealth with a technical regulation that is protective of water quality in surface waters, reflects recent scientific information, reflects agency procedures and is reasonable and practical.

The environment will benefit because implementation of these amendments will result in better water quality in the Commonwealth for recreation, consumption of fish and shellfish and protection of aquatic life.

## Substance

*Please briefly identify and explain the new substantive provisions, the substantive changes to existing sections, or both. A more detailed discussion is provided in the "Detail of changes" section below.*

### **Table of Parameters (Toxics) § 9 VAC 25-260-140**

An amendment to the cadmium criteria for the protection of fresh- and saltwater aquatic life is based on more recent EPA guidance issued in 2016. The proposed cadmium criteria reflect toxicity data for 75 new species and 49 new genera, which result in modest changes to criteria.

Amendments are proposed to update 94 human health criteria parameters. EPA issued revised recommendations for 94 chemical pollutants in June 2015. Updated recommendations for human health parameters reflect the latest scientific information and EPA policies, including updated exposure factors (body weight, drinking water consumption rates, fish consumption rate, relative source contribution), bioaccumulation factors, and toxicity factors (reference dose, cancer slope factor). Each of these 94 chemical pollutants has two criteria – one for waters designated as public water supplies and one for all other state waters – for a total of 188 criteria concentrations. Inclusion of new data by EPA results in varying changes to these criteria; 127 are decreased (become more stringent), 57 are increased (become less stringent), 2 are unchanged and 2 are new additions to the Regulation.

### **Ammonia Criteria § 9 VAC 25-260-155**

Included is a proposal to amend the section to include new nationally recommended aquatic life criteria, issued by EPA 2013, for ammonia in freshwater. Like the current criteria, the proposed criteria are calculated as a function of temperature and pH and accounts for the presence/absence of trout and early life stages of fish. The recalculated ammonia criteria now incorporate toxicity data for freshwater mussels in the family Unionidae which are the most sensitive organisms in the recalculation data base. The new criteria are about twice as stringent as the existing criteria primarily because more recent toxicity data show that mussels and snails (including endangered species) are very sensitive to ammonia and the current ammonia criteria do not provide sufficient protection for these species. Site specific options to calculate criteria omitting mussel toxicity data are proposed to be used in waters where a demonstration has been made that mussels are absent; however, consultation with USFWS and DGIF indicate freshwater mussels should be considered ubiquitous in Virginia and likely to be present in any perennial waterbody.

### **Bacteria Criteria 9 VAC 25-260-170**

In October 2012, EPA finalized their updated recommended national water quality criteria for bacteria designed for the protection of recreational uses (swimming). Amendments are proposed to incorporate

those updates into the Virginia water quality standards and are intended to replace the current bacteria criteria for the protection of the primary contact recreation use. The revised EPA recommendations include a geometric mean (GM) value as well as a statistical threshold value (STV). The GM is a never-to-be-exceeded value; the STV should not be exceeded by more than 10% of the samples taken.

### Issues

*Please identify the issues associated with the proposed regulatory action, including: 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions; 2) the primary advantages and disadvantages to the agency or the Commonwealth; and 3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, please indicate.*

The primary advantage to the public is that the updated numerical toxics criteria are based on better scientific information to protect water quality and human health. The disadvantage is that criteria that become more stringent may result in increased costs to the regulated community. However, the goal is to set realistic, protective goals in water quality management and to maintain the most scientifically defensible criteria in the water quality standards regulation. EPA has also provided guidance that these criteria are "approvable" under the Clean Water Act.

The advantage to the agency or the Commonwealth that will result from the adoption of these amendments will be more accurate and scientifically defensible permit limits, assessments and clean-up plans (TMDLs). These are discussed under the "Purpose" section where the goals of the proposal, the environmental benefits, and the problems the proposal is intended to solve are discussed.

The regulated community will find the amendments pertinent to their operations, particularly where the numerical criteria are more stringent since that may require additional capital or operating costs for control in their discharge (see Economic Impact).

There is no disadvantage to the agency or the Commonwealth that will result from the adoption of these amendments.

### Requirements more restrictive than federal

*Please identify and describe any requirement of the proposal which is more restrictive than applicable federal requirements. Include a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements or no requirements that exceed applicable federal requirements, include a statement to that effect.*

There are no requirements that exceed applicable federal requirements.

### Localities particularly affected

*Please identify any locality particularly affected by the proposed regulation. Locality particularly affected means any locality which bears any identified disproportionate material impact which would not be experienced by other localities.*

All amendments would apply statewide and are not expected to impose any identified disproportionate material impact to a locality.

## Public participation

*Please include a statement that in addition to any other comments on the proposal, the agency is seeking comments on the costs and benefits of the proposal, the impacts of the regulated community and the impacts of the regulation on farm or forest land preservation.*

In addition to any other comments, the Board is seeking comments on the costs and benefits of the proposal, the potential impacts of this regulatory proposal and any impacts of the regulation on farm and forest land preservation. Also, the agency/board is seeking information on impacts on small businesses as defined in § 2.2-4007.1 of the Code of Virginia. Information may include 1) projected reporting, recordkeeping and other administrative costs, 2) probable effect of the regulation on affected small businesses, and 3) description of less intrusive or costly alternative methods of achieving the purpose of the regulation.

Anyone wishing to submit written comments for the public comment file may do so by mail, email or fax to David Whitehurst, P.O. Box 1105, Richmond, VA 23218, (804) 698-4121, fax (804) 698-4116 and email [David.Whitehurst@deq.virginia.gov](mailto:David.Whitehurst@deq.virginia.gov). Comments may also be submitted through the Public Forum feature of the Virginia Regulatory Town Hall web site at: [www.townhall.virginia.gov](http://www.townhall.virginia.gov). Written comments must include the name and address of the commenter. In order to be considered, comments must be received by 11:59 pm on the last day of the public comment period.

A public hearing will be held following the publication of this stage and notice of the hearing will be posted on the Virginia Regulatory Town Hall website (<http://www.townhall.virginia.gov>) and on the Commonwealth Calendar website (<https://www.virginia.gov/connect/commonwealth-calendar>). Both oral and written comments may be submitted at that time.

A formal hearing will be held on a date and time and at a place to be determined if a request for a formal hearing is received by the contact person listed above within 30 days of publication of the notice of public comment period in the Virginia Register of Regulations.

## Economic impact

*Please identify the anticipated economic impact of the proposed new regulations or amendments to the existing regulation. When describing a particular economic impact, please specify which new requirement or change in requirement creates the anticipated economic impact.*

<b>Projected cost to the state to implement and enforce the proposed regulation, including: a) fund source / fund detail; and b) a delineation of one-time versus on-going expenditures</b>	There will be no additional costs to the state / agency. Existing water quality monitoring programs (and related funding sources) will continue to support the proposed changes.
<b>Projected cost of the new regulations or changes to existing regulations on localities.</b>	There is no reported cost to localities. Estimated costs to affected businesses or other entities are explained below.
<b>Description of the individuals, businesses, or other entities likely to be affected by the new regulations or changes to existing regulations.</b>	Facilities likely to be affected by this regulation are VPDES permit based facilities and impaired waters that need to have a Total Maximum Daily Load developed under the Clean Water Act Section 303(e).
<b>Agency's best estimate of the number of such</b>	Potentially affected entities would be those with

<p><b>entities that will be affected. Please include an estimate of the number of small businesses affected.</b> Small business means a business entity, including its affiliates, that:</p> <p>a) is independently owned and operated and;</p> <p>b) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million.</p>	<p>permitted discharges to surface waters of the Commonwealth that have effluent limits for those parameters with proposed changes to the criteria concentration values. Those with monitoring requirements in their permit may also be affected for those parameters that become more stringent.</p> <p>The estimated number of potentially affected facilities due to proposed amendments to the ammonia, and cadmium is 409 and includes those facilities with effluent limitations and those with monitoring requirements but no limits. It is not expected amendments to bacteria criteria will affect dischargers as end-of-pipe limits for bacteria are set at the criterion.</p> <p><u>Chesapeake Bay Facilities</u></p> <p>There are approximately 220 discharge permits issued in the Chesapeake Bay watershed with either ammonia limits or ammonia monitoring requirements. Although ammonia limits or monitoring requirements are in the permits, it may be assumed those facilities with ammonia limits east of Interstate 95 with a design flow equal to or greater than 0.1 MGD and those with ammonia limits west of I-95 with a design flow equal to or greater than 0.5 MGD either currently have requirements or will be required to nitrify/denitrify to comply with the total nitrogen waste load allocations of the Water Quality Planning Management Regulation (9VAC25-720 et seq) and the Chesapeake Bay Total Maximum Daily Load Watershed Implementation Plan. While any of these facilities have the <i>potential</i> to incur additional costs due to more stringent ammonia limits, those utilizing a nitrification/denitrification wastewater treatment process to meet total nitrogen concentration limits also greatly reduce the ammonia concentrations in effluent to very low levels.</p> <p>There are approximately 20 facilities east of Interstate 95 with flows less than 0.1 MGD. It is anticipated that these facilities have the greatest likelihood to incur impacts due to more stringent ammonia criteria. Of these, 17 now have numeric ammonia limits and it is likely they have nitrification capability to meet current limits; however an upgrade and/or operational procedure modification may be necessary to comply with newer, more stringent ammonia limits.</p> <p>There are approximately 119 facilities west of I-95 with design flows less than 0.5 MGD. It is anticipated that these facilities have the greatest likelihood to incur impacts due to more stringent ammonia criteria. All but 2 have numeric ammonia limits now and it is likely that the facilities with</p>
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	<p>numeric limits have nitrification capability to meet current limits; however an upgrade and/or operational procedure modification may be necessary to comply with newer, more stringent ammonia limits.</p> <p>It is not known how many of these would install a simple nitrification system or an advanced nitrification/denitrification system.</p> <p><u>Non-Bay Facilities</u></p> <p>There are approximately 150 discharge permits issued outside of the Chesapeake Bay watershed with either ammonia limits or ammonia monitoring requirements. While any of these facilities have the <i>potential</i> to incur additional costs due to more stringent ammonia limits, it appears likely that those with only monitoring requirements will incur costs should more stringent effluent limits be necessary. All but 8 have numeric ammonia limits now and it is likely these facilities have nitrification capability to meet current limits; however an upgrade and/or operational procedure modification may be necessary to comply with newer, more stringent ammonia limits.</p> <p>There are 10 active VPDES permits with effluent limitations for cadmium. Fourteen have monitoring requirements but no limits.</p> <p>The updated recommendations for 94 human health parameters reflect the latest scientific information and EPA policies, including updated exposure factors (body weight, drinking water consumption rates, fish consumption rate, relative source contribution), and bioaccumulation factors, toxicity factors (reference dose, cancer slope factor).</p> <ul style="list-style-type: none"> <li>• Each has two criteria (potable water supply and non-water supply) for a total of 188 individual criteria concentrations.</li> <li>• 127 of these would become more stringent</li> <li>• 57 would become less stringent</li> <li>• 2 would be unchanged</li> <li>• 2 are new additions and do not have criteria in the current regulation</li> </ul> <p>Given the large number of parameter criteria being amended, it is difficult to determine at this time what the cost savings or expenses may be.</p> <p>Impacts to small businesses should not be significantly different than for larger businesses.</p>
<p><b>All projected costs of the new regulations or changes to existing regulations for affected individuals, businesses, or other entities. Please be specific and include all costs including:</b></p>	<p>Until the number, size, type of facilities and degree of additional treatment needed are known for dischargers affected by the proposed amendments, no projected costs are available. It is possible that order-of-magnitude cost opinions</p>



<p><b>a) the projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses; and b) specify any costs related to the development of real estate for commercial or residential purposes that are a consequence of the proposed regulatory changes or new regulations.</b></p>	<p>(-30% to +50% accuracy) can be developed using cost-curve data, information on similar facility upgrades that have been completed, and owner-furnished information. It is not expected the amendments will affect reporting, recordkeeping, or other administrative costs.</p>
<p><b>Beneficial impact the regulation is designed to produce.</b></p>	<p>A general benefit of the proposed amendments will be scientifically correct and legally defensible water quality standards to protect the surface waters of Virginia.</p> <p>The proposed change that could have economic benefit is the human health criteria updates that have become less stringent which may result in a cost savings for facilities that have permit limits for those compounds and/or facilities that have monitoring requirements.</p>

## Alternatives

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

One alternative would have been to not propose any of the amendments described in this document. That alternative was not chosen for the proposed updates to aquatic life and human health criteria because those criteria are based upon more recent scientific information and data that provide for improved environmental and human health protection.

### **Ammonia Criteria**

It was considered whether geographic regions and/or watersheds within Virginia could be designated as “mussel free” and apply the less-stringent, site specific criteria over broad areas. Subsequent consultation with US Fish and Wildlife Service, Dept. of Game and Inland Fisheries, and Dept. of Conservation and Recreation indicated it is appropriate to presume mussels are present in any perennial freshwater stream in Virginia and require that the absence of mussels be determined on a very localized site-by-site basis.

### **Human Health Criteria**

The updated recommendations for the 94 human health parameters reflect the latest scientific information and EPA policies, including updated exposure factors (body weight, drinking water consumption rates, fish consumption rate, relative source contribution), bioaccumulation factors, toxicity factors (reference dose, cancer slope factor). The newly calculated criteria concentrations increased for some and decreased for others. During the Regulatory Advisory Panel process it was asked if the State has the option to maintain the lower criteria concentrations. Virginia does have the option to maintain criteria lower than the nationally recommended criteria should those nationally recommended become less stringent. However that option was not pursued as updates to the reference doses and oral slope factors are the best currently available scientific basis for human health criteria determinations.

## Regulatory flexibility analysis



*Pursuant to § 2.2-4007.1B of the Code of Virginia, please describe the agency’s analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) the establishment of less stringent compliance or reporting requirements; 2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; 3) the consolidation or simplification of compliance or reporting requirements; 4) the establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the proposed regulation.*

The proposed changes in the Water Quality Standards Regulation provide for internal flexibility in regulatory recordkeeping and water quality monitoring efforts. Economic estimates of the same are provided above.

To address concerns raised about the costs and time necessary for upgrades to facilities required to meet more stringent ammonia discharge limits, amendments to the freshwater ammonia criteria include provisions that would allow for compliance schedules longer than 5 years under these conditions:

- Preserves the statutory and regulatory requirement that compliance be achieved “as soon as possible”. EPA regulations do not limit compliance schedules to the term of a discharge permit and this amendment language is consistent with the federal requirement.
- Specific only to the implementation of new or more restrictive ammonia criteria.
- Applicable only to reissuance of individual discharge permits and not allowed for new discharges.
- On a case-by-case basis, may be justified considering factors such as, but not limited to:
  - § Opportunities to minimize costs for multi-purpose, phased projects
  - § Time needed for freshwater mussel surveys
  - § Other relevant factors
- Establishes interim deadlines and reporting requirements

**Public comment**

*Please summarize all comments received during the public comment period following the publication of the NOIRA and the NOPC, and provide the agency response.*

1. Below is a summary of comments received during the public comment period following the publication of the NOIRA and the agency response.

Commenter	Comment	Agency response
	<b>Comments – Criteria</b>	
US Fish & Wildlife Service	New EPA-published ammonia criteria should be incorporated into existing permits when the permit is modified for any reason. If no permit modifications occur during the current permit cycle, these criteria could be implemented upon permit reissuance.	DEQ intends to propose amendments to the ammonia criteria. Once adopted and approved, the new criteria will be implemented following standard procedures.
Hampton Roads Sanitation District	Recommend that DEQ not revise human health criteria based on updated reference doses that the Integrated Risk Information System (IRIS) has labeled with a low degree of confidence.	None of the reference doses that are being used to modify the human health criteria were identified as having a low degree of confidence. All of the criteria that are being proposed for change are in response to changes in the EPA recommendations for the

		toxicological values such as the reference dose. The newer recommendations for reference doses are considered to have a higher level of confidence than the older values they are replacing.
Hampton Roads Sanitation District	Generally supportive of revising cadmium and lead criteria though it is unclear what potential impact more stringent cadmium criteria may have on permittees. DEQ must continue to allow facilities to manage effluent hardness to limit metal bioavailability in lieu of costly upgrades.	DEQ plans on proposing nationally recommended criteria (EPA, 2015) for cadmium in fresh- and saltwater.
Hampton Roads Sanitation District & Virginia Association of Municipal Wastewater Agencies	New EPA-recommended freshwater ammonia criteria are substantially more stringent than existing criteria and present implementation challenges to publicly owned treatment works. A reasonable approach to implementation would be to apply the existing criteria to waters that do not have a readily identifiable Unionid mussel presence pending a mussel bioassessment. If unionid mussels are present then the new criteria and appropriate permit discharge limitations would apply.	DEQ will propose the new ammonia criteria with flexibility of using adjusted criteria where it can be demonstrated that Unionid mussels are not present in a waterbody. The proposed amendments also provide the option of utilizing compliance schedules specific to ammonia that can extend longer than 5 years.
Virginia Association of Municipal Wastewater Agencies	Support revision of cadmium and lead criteria	DEQ plans on proposing nationally recommended criteria (EPA, 2015) for cadmium in fresh- and saltwater.
	<b>Comments – Bacteria Criteria (Recreation)</b>	
Hampton Roads Sanitation District & Virginia Association of Municipal Wastewater Agencies	Urge DEQ to delay adoption of new EPA-recommended recreational bacteria criteria until EPA provides guidance outlining how to implement criteria that require compliance with both a geometric mean and a Statistical Threshold Value (single value).	DEQ is proposing amendments to the current recreational criteria for bacteria. EPA has provided a guidance recommendation that geometric means may be calculated using all monitoring data gathered from up to a 90-day period.

2. In response to a Notice of Public Comment on Proposed Amendments addressing these issues, at the January 14, 2016 meeting the Board received, considered and responded to public comment on the previously proposed amendments as follows:

§ 9VAC25-260-140, Criteria for Surface Waters  
 CADMIUM:

1. HRSD and VAMWA support adoption of the proposed cadmium criteria.

*Agency Response: The support is noted. However, subsequent to the public comment period, in a November 2015 notification from EPA, DEQ staff became aware of a pending update to their national recommended ambient water quality criteria for cadmium in order to reflect the latest scientific*

information. To avoid confusion and the potential for adoption of freshwater aquatic life criteria that are more restrictive than the pending federal recommendations without justification, staff intends to recommend that the State Water Control Board not adopt the proposed cadmium criteria amendments. Updates to the cadmium criteria will be addressed through a future rulemaking.

2. Richmond and VMA suggest that DEQ include provisions explaining that dischargers can manage the effluent hardness level in order to regulate the bioavailability of cadmium and lead. *Agency Response: No additional provisions recommended, as this is an operational issue for permitted dischargers and not directly related to the water quality criteria or the Water Quality Standards Regulation.*

#### HUMAN HEALTH CRITERIA:

EPA requests that Virginia consider revising the eight proposed criteria in particular, as well as other human health water quality criteria currently applicable during this Triennial Review to make them consistent with EPA's 2015 updated human health water quality criteria.

*Agency Response: The EPA human health criteria updates for 94 pollutants were published in the Federal Register the same day that Virginia Register published public notice for this Triennial Review's proposed amendments. Due to the lack of opportunity for sufficient public comment, the Department intends to recommend that the State Water Control Board not adopt the 8 proposed human health parameters. Criteria updates to the 94 updated pollutants (which includes the original 8) will be addressed through a future rulemaking.*

#### § 9VAC25-260-155, Ammonia surface water quality criteria

Most opposing commenters stated that the proposed criteria change appears to have a major statewide impact. Though they understand that the purpose of the criteria change is to increase protection for snails and mussels, they have significant questions about the impact to treatment facilities, capital and operating costs for compliance, relationship to other current or future nutrient criteria, state grant availability, sewer rate increases, and uncertainties over implementation methods.

All opposing commenters requested the proposed ammonia criteria update be removed from the Triennial Review rulemaking and addressed in a separate rulemaking once permitting and compliance implementation concerns have been fully evaluated. An economic impact analysis was submitted by VAMWA and is available.

*Agency Response: The agency realizes there is potential for widespread impact to treatment facilities. Although the updated ammonia criteria for freshwater appear technically and scientifically sound, DEQ staff agrees additional time is needed to identify and fully understand the implications of implementing the revised criteria. It is the agency's opinion that the updated criteria and related implementation issues will be better addressed in a separate rulemaking that is not expected to require a protracted time frame and should commence in early 2016.*

The Chesapeake Bay Foundation (CBF) is supportive of the proposed update to the freshwater ammonia criteria.

*Agency Response: The support is noted.*

EPA is pleased Virginia is updating its ammonia surface water quality criteria and recommend including an explanation of how DEQ plans to conduct freshwater mussel surveys. They also state detailed protocols should be developed on assessment methods.

*Agency Response: Determination of the absence of freshwater mussels requires special field survey methods. This determination must be made after an adequate survey of the waterbody is conducted by an individual certified by the Virginia Department of Game and Inland Fisheries (DGIF) for freshwater mussel identification and surveys. Determination of absence of freshwater mussels will be done in consultation with the DGIF. Also, please note the response provided above.*

3. After the Board's January 14, 2016, meeting, at which time the Board approved a "follow-on" rulemaking to address the pending issues (revisions to bacteria criteria for human health protection in recreation waters; updates to freshwater aquatic life criteria for ammonia, as well as implementation issues and impacts to regulated dischargers; revisions to cadmium criteria for the protection of aquatic life; and,

amendments to 94 human health criteria), the existing Regulatory Advisory Panel was reconvened to consider the pending issues. The Panel met four times over several months and the current proposed amendments were approved for public comment by the Board at its December 2016 meeting.

### Family impact

*Please assess the impact of this regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one’s spouse, and one’s children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.*

The direct impact resulting from the development of water quality standards is for the protection of public health and safety and the protection of water quality in surface waters which has an indirect positive impact on families.

### Detail of changes

*Please list all changes that are being proposed and the consequences of the proposed changes; explain the new requirements and what they mean rather than merely quoting the proposed text of the regulation. If the proposed regulation is a new chapter, describe the intent of the language and the expected impact. Please describe the difference between existing regulation(s) and/or agency practice(s) and what is being proposed in this regulatory action. If the proposed regulation is intended to replace an emergency regulation, please list separately: (1) all differences between the pre-emergency regulation and this proposed regulation; and 2) only changes made since the publication of the emergency regulation.*

Section Number	Summary of Change (Current and Proposed)	Rationale/Consequences
9VAC25-260-140. Criteria for surface water	One aquatic life and 94 human health updates to criteria in the parameter table.	Fresh- and saltwater criteria for cadmium and 94 human health parameters are being updated to reflect EPA’s most recent nationally recommended criteria.  The consequences resulting from these amendments are that the more stringent numerical criteria could result in economic impacts to the regulated communities that have any of these toxicants in their discharge. The environment may benefit from lower concentrations of toxic pollutants.
9VAC25-260-155. Ammonia surface water quality criteria.	Current freshwater aquatic life criteria calculations for ammonia are based upon temperature, pH, and the presence or absence of trout and/or early life stages of fish. Proposed criteria calculations are also based upon the above but also incorporate toxicity data for freshwater mussels. The proposed criteria tend to be	The proposed ammonia criteria are EPA’s current nationally recommended criteria. Freshwater mussels are the most sensitive species in the toxicity data set thus lowering the criteria. The consequences resulting from this amendment is that the more stringent criteria could result in economic impacts to regulated

	<p>more stringent than the existing criteria. Site specific options exist for criteria calculation in the absence of mussels. There is also an option for a permit compliance schedule specific to ammonia.</p>	<p>communities that have ammonia in their discharge. The aquatic life and environment would benefit from the lower concentrations.</p>
<p>9VAC25-260-170. Bacteria; other recreational waters</p>	<p>Current criteria consists of a geometric mean value for the indicator organisms (e. coli and enterococci) but only if 4 or more monitoring samples within a month are available and is never to be exceeded. No more than 10% of the total samples may exceed the single sample maximum criteria. If there are not 4 or more samples for calculating a geometric mean, only the single sample maximum applies for assessment purposes. There is a category for 'secondary contact recreation' to which waters may be assigned if appropriate. Secondary contact waters have higher criteria values. Additionally, criteria values are listed for beach advisories or closures.</p> <p>The proposed criteria utilize the same indicator organisms and the geometric mean (GM) criteria values remain the same. The GM criteria is a never to be exceeded value. EPA's Standards and Health Protection Division has provided (Oct. 2015) a written "Narrative Justification for Longer Duration Period for Recreational Water Quality Criteria", that allows for the GM to be based on all monitoring data collected during up to a 90-day period.</p> <p>There is a Statistical Threshold Value (STV) similar to the existing single sample maximum. The STV may exceed the criteria no more than 10% of the time within an assessment period. Both the geometric mean <u>and</u> STV apply. Secondary contact category has been deleted as has the requirements regarding beach notifications. Language has been added indicating the VDH shall make determinations regarding beach notifications or closures.</p>	<p>The rationale is that the proposed bacteria criteria represent the most recent scientific basis for criteria designed to protect primary contact recreational uses. Also, the Federal BEACH Act of 2000 requires that, not later than 36 months after the date of publication by EPA (criteria published in 2012) of new or revised water quality criteria for pathogens or pathogen indicators, each State having coastal recreation waters shall adopt and submit to EPA new or revised water quality standards for the coastal recreation waters of the State for all pathogens and pathogen indicators to which the new or revised water quality criteria are applicable.</p> <p>The consequences resulting from this amendment are that application of both the geometric mean and the STV for assessment purposes could result in more waters assessed as impaired for the recreational use.</p>