



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

JUN 05 2017

Ms. Jutta Schneider, Director
Water Planning Division
Virginia Department of Environmental Quality
629 East Main Street
Richmond, Virginia 23219

Dear Ms. Schneider:

Recently the Commonwealth of Virginia adopted revisions to its Water Quality Standards (WQS) regulation (9VAC 25-260), as a result of its triennial review of WQS. The WQS triennial review process, which began with a Notice of Intended Regulatory Action published on August 2013, included several public comment periods, two public hearings and approval by the Virginia State Water Control Board. The final public review period for the final WQS amendments ended September 21, 2016 with no comments received. The Commonwealth of Virginia, Office of the Attorney General certified on October 26, 2016 that these WQS amendments were duly adopted in accordance with State law. The final WQS amendments addressed in this letter were submitted by the Virginia Department of Environmental Quality (VADEQ) to the U.S. Environmental Protection Agency (EPA) in a package dated November 21, 2016 pursuant to Section 303(c)(1) of the Clean Water Act (CWA) and 40 CFR Part 131. The EPA received this package on November 29, 2016.

Based on EPA's review of the submission and supporting documentation, EPA finds that most of the new or revised WQS provisions adopted by Virginia are consistent with CWA Section 303(c) and its implementing regulations at 40 CFR Part 131. Table 1 in the Enclosure to this letter includes all of the new or revised WQS provisions (substantive and non-substantive) that EPA is approving in this action, as well as a brief rationale for our approval. Table 2 lists a number of new or revised provisions that EPA is not approving as part of this action, because EPA does not consider those provisions to be new or revised WQS subject to review under CWA Section 303(c). Table 3 includes one WQS revision that EPA is deferring a decision under CWA 303(c).

Under Section 7 of the Endangered Species Act (ESA), 42 U.S.C. §1536, EPA has the obligation to insure that the Agency's approval of these modifications to the State's WQS regulation will not jeopardize the continued existence of Federally-listed threatened and endangered species and their critical habitat in Virginia. To fulfill our obligation, EPA prepared a biological evaluation of the new or revised provisions of Virginia's regulation and concluded that our approval is not likely to adversely affect listed species and their critical habitat. The Virginia Field Office of the U.S. Fish and Wildlife Service concurred with this conclusion on May 11, 2017. EPA has concluded that its approval of



Virginia's revised water quality standards will have no effect on any threatened or endangered species under the jurisdiction of the National Marine Fisheries Service.

EPA would like to commend VADEQ's WQS staff for the completion of this review of Virginia's WQS regulation. For the several criteria that VADEQ considered during this Triennial Review but did not adopt, we anticipate that VADEQ will, in its "follow on" rulemaking, address ammonia aquatic life use criteria, bacteria recreational uses criteria, and EPA's 2015 updated national recommended water quality criteria for human health for 94 chemical pollutants. We look forward to working with you on these as well as on your continued efforts to establish nutrient criteria.

If you have any questions regarding this action, please do not hesitate to contact me or have your staff contact Cheryl Atkinson, at 215-814-3392.

Sincerely,


Dominique Lueckenhoff, Acting Director
Water Protection Division

Enclosure

cc: John Kennedy, DEQ (w/attachments)
David C. Whitehurst, DEQ (w/attachments)

Enclosure Action Rationale

Summary of Virginia's New and Revised Water Quality Standards
 Adopted Amendments to 9 VAC 25-260 Virginia Water Quality Standards (VAWQS)
 Submitted by Commonwealth of Virginia Department of Environmental Quality (VADEQ)
 VADEQ 2013-2016 Triennial Review

Table 1
Revisions to VAWQS that EPA is approving pursuant to Section 303(c) of the Clean Water Act

Section	Description of Revision	EPA Approval Rationale
Several Sections throughout 9 VAC 25-260	Revised water body to <u>waterbody</u> ; waste load to <u>wasteload</u> ; Freshwater to <u>freshwater</u> ; Routes from Rts. ; section to <u>Section</u> ; free flowing to <u>free flowing</u> ; Health to <u>health</u> ; State to <u>Virginia</u> ; Oxygen to <u>oxygen</u> ; Solids to <u>solid</u> ; Nitrogen to <u>nitrogen</u> ; Phosphorus to <u>phosphorus</u> ; Physieal to <u>physical</u> ; Chemical Constituents to <u>chemical constituent</u> ; <u>3</u> to <u>three</u> . Insert missing units ($\mu\text{g/l}$).	Modification for clarification purposes.
9 VAC 25-260-50. Definitions.		
Wetlands	Added <u>Department or DEQ means the Virginia Department of Environmental Quality.</u>	Modification for clarification purposes.
9 VAC 25-260-50. Numerical Criteria for Dissolved Oxygen, pH, and Maximum Temperature.		

Section	Description of Revision	EPA Approval Rationale
Footnote ****.	<p>Added language to footnote **** to indicate that pH criteria for man-made lakes and reservoirs only applies in the epilimnion (upper layer) when they are thermally stratified.</p> <p>****For a thermally stratified man-made lake or reservoir in Class III, IV, V or VI waters that are listed in 9VAC25-260-187, these dissolved oxygen <u>and pH</u> criteria apply only to the epilimnion of the water body. When these waters are not stratified, the dissolved oxygen <u>and pH</u> criteria apply throughout the water column.</p>	<p>The change to the footnote results in the pH criteria applying only in the epilimnion when the lakes or reservoirs listed in Section 9 VAC 25-260-187 Nutrient Criteria for Lakes & Reservoirs are thermally stratified. When not stratified, pH criteria would apply throughout the water column. This revision recognizes the natural circumstances that during late winter and summer months, thermal boundaries can form that prevent mixing of water at the bottom with upper layers of water. Natural decay processes in the sediment result in acidic conditions in the lower water column/layers. This change will allow for more appropriate assessments of reservoirs under these environmental conditions. Although the pH criteria will apply to only to the epilimnion of man-made lakes and reservoirs when these waters are stratified, Virginia's narrative criteria at 9VAC25-260-20, which applies to all waterbodies of the State, continues to apply to the entire water column for man-made lakes and reservoirs in order to ensure full protection of applicable aquatic life uses.</p>
9 VAC 25-260-140. Criteria for Surface Water. B. Table of Parameters		
Acrolein (µg/l) 107028	<p>added Freshwater Acute criterion = <u>3.0</u></p> <p>added Freshwater Chronic criterion = <u>3.0</u></p>	<p>Consistent with EPA's National Recommended Water Quality Criteria. See <u>Ambient Aquatic Life Water Quality Criteria for Acrolein</u>, (EPA 822-F-09-004), August 2009.</p>
Carbaryl (µg/l) 63252	<p>added Freshwater Acute criterion = <u>2.1</u></p> <p>added Freshwater Chronic criterion = <u>2.1</u></p> <p>added Saltwater Acute criterion = <u>1.6</u></p>	<p>Consistent with EPA's National Recommended Water Quality Criteria. See <u>Aquatic Life Ambient Water Quality Criteria for Carbaryl</u>, (EPA-820-R-12-007), April 2012.</p>
Chrysene (µg/l) 218019	<p>Chrysene: Human Health Public Water Supply criterion from 0.0038 to <u>0.038</u>.</p>	<p>According to Virginia, typographical errors occurred during the 2007 Triennial Review and Virginia subsequently discovered them and wanted to correct them. In VADEQ's WQS file, contained in the Virginia Legislative Information Services, the criterion concentration for Chrysene showed a misplaced decimal point, showing 0.0038 µg/l in the drinking water criterion concentration. See note 1 below for more detailed description of this error and correction. EPA finds that this criterion is protective of human health use. It is more stringent than EPA's National Recommended Human Health Chrysene Criteria for the consumption of Water + Organism = 0.12 (µg/L). See <u>Update of Human Health Ambient Water Quality Criteria: Chrysene</u>, (EPA 820-R-15-030), June 2015.</p>

Section	Description of Revision	EPA Approval Rationale
Lead (µg/l) 7439921	<p>Freshwater and saltwater aquatic life criteria for lead were amended to include a conversion factor to convert the criteria concentrations from total lead to dissolved concentrations.</p> <p>Freshwater acute criterion (µg/l) $WER [e \{1.273[\ln(\text{hardness})] - 1.084\}] (CFa)$</p> <p>Freshwater chronic criterion (µg/l) $WER [e \{1.273[\ln(\text{hardness})] - 3.259\}] (CFc)$ $CF = \text{conversion factor a (acute) or c (chronic)}$ $CFa = 1.46203 - [(\ln \text{hardness}) (0.145712)]$ $CFc = 1.46203 - [(\ln \text{hardness}) (0.145712)]$</p> <p>In saltwater, the conversion factor is 0.951 and was used to convert the single concentration criteria in saltwater to 230 acute and 8.8 for chronic.</p> <p>Saltwater acute criterion (µg/l) 240 230 Saltwater chronic criterion (µg/l) 9.3 8.8</p>	<p>Consistent with EPA's recommendation that a conversion factor be included in the criteria for metals to allow them to be expressed in terms of the dissolved metal in the water column. See <u>Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria</u>.</p>
Manganese (µg/l) 7439965	<p>Deleted Human Health Public Water Supply criterion = 50. Criterion to maintain acceptable taste, odor or aesthetic quality of drinking water and applies at the drinking water intake.</p>	<p>Virginia has removed its manganese human health criterion for public water supply use because Virginia's manganese criterion was based on a Secondary Maximum Contaminant Level recommended for application to finished drinking water as supplied to the consumer. It was intended to prevent laundry staining and is unrelated to protection of human health. This criterion is applied at the drinking water intake. Virginia's narrative criteria at 9VAC25-260-20, which applies to all waterbodies of the State, continues to apply to ensure full protection of the designated uses, including public water supply.</p>
N-Nitrosodiphenylamine (µg/l)	<p>N-Nitrosodiphenylamine: Human Health All Other Surface Waters from 160 to <u>60</u>.</p>	<p>Correction of typographical error. According to Virginia, this revision corrects a typographical error due to a software problem that left the old criterion concentration as well as the new criterion during the 2007 Triennial Review. EPA did approve a criterion of 60 as part of the 2007 Triennial. See note 2 below for more detailed description of this error and correction.</p>
Nonylphenol (ug/l)	<p>Corrected Cass Number 1044051 84852153</p>	<p>Modification for clarification purposes.</p>
Zinc (µg/l)	<p>Corrected Cass Number 7440666 and clarified e = base-e exponential function. Natural antilogarithm $\ln = \log$ normal function-natural logarithm $CF = \text{conversion factor a}$ (acute) or c (chronic).</p>	<p>Modification for clarification purposes.</p>
Footnotes 3 and 4	<p>9VAC25-260-390-540 through 9VAC25-260-390-540</p>	<p>Modifications for clarification purposes.</p>

Section	Description of Revision	EPA Approval Rationale
Footnote 6	...one <u>1</u> day . . . seven <u>7</u> consecutive days . . . five <u>5</u> climatic years.	Modification for clarification purposes.
Footnote 8	Corrected typographical error. And/or to <u>and</u> .	Modification for clarification purposes.
9 VAC 25-260-140. Criteria for Surface Water C. Application of freshwater and saltwater numerical criteria		
	Added <u>N</u> and <u>W</u> to transition zone boundaries; Changed Mattaponi <u>Mattaponi</u> ; Added <u>miles</u> downstream of Grove Creek . . .; Revised <u>above</u> to <u>in</u> subdivisions 1 through 4 of this subsection.	Modification for clarification purposes.
9 VAC 25-260-140. Criteria for Surface Water. D. Site-specific modifications to numerical water quality criteria		
	Added (<u>§ 2.2-4000 et seq. of the Code of Virginia</u>).	Modification for clarification purposes.
9 VAC 25-260-140. Criteria for Surface Water. E Variances to water quality standards		
	Added <u>U.S.</u> . Changed / to <u>or</u> .	Modification for clarification purposes.
9 VAC 25-260-140.F Criteria for Surface Water F. 4 Water effect ratio		
	Added - equals Added <u>Part IV</u> Deleted the sentences The Environmental Protection Agency views the WER in any particular case as a site-specific criterion. Therefore, the department's Division of Scientific Research or its successor shall submit the results of the study to the Environmental Protection Agency for review and approval/disapproval within 30 days of the receipt of certification from the state's Office of the Attorney General. Note Virginia WER procedures are is in place for CWA purposes and can be found in Section F and remain in effect for CWA purposes.	Virginia's criteria for metals are based on equations that include a WER multiplier and were previously approved for CWA purposes. EPA considers this change to be a clarification and is therefore approving this deletion as a non-substantive revision to Virginia's water quality standards.
9 VIRGINIAC 25-260-185. Criteria to protect the Chesapeake Bay		
	Added <u>The dissolved oxygen criteria in the below table apply to all Chesapeake Bay waters according to their specified designated use and supersede the dissolved oxygen criteria in 9VAC25-260-50.</u>	This amendment clarifies which dissolved oxygen criteria are applicable to the estuarine portion of Bay tributaries and mainstem Bay waters.
	Revised Water Submerged Aquatic Vegetation Use to water submerged aquatic vegetation use; Light Through Water to light-through-water; and Water to water.	Modification for clarification purposes.
9 VAC 25-260-187. Criteria for Man-made Lakes and Reservoirs to Protect Aquatic Life and Recreational Designated Uses from the Impacts of Nutrients.		

Section	Description of Revision	EPA Approval Rationale
Table of Lake Criteria (µg/L)	<p>Added Lake Orange and Powhatan with the appropriate nutrient criteria to list of lakes and reservoirs to protect aquatic life and recreational designated uses from the impacts of nutrients.</p> <p><u>Lake Orange, Orange County</u> Chlorophyll a = 60 Total Phosphorus = 40</p> <p><u>Powhatan Lakes (Upper and Lower) Powhatan County</u> Chlorophyll a = 35 Total Phosphorus = 40</p>	EPA approved Virginia's nutrient criteria for man-made lakes and reservoirs on July 27, 2007. As provided by Section 9 VAC 25-260-187.A, the state is adding additional man-made lakes and reservoirs to be covered by the approved criteria, in accordance with the ecoregion where the lakes are located and the type of aquatic life in the particular lake.
9 VAC 25-260-310. Special Standards and Requirements.		
ee. & ff.	<p>Added 2 site specific maximum temperature criteria (ee and ff) to set recommended maximum temperatures of 26°C for Tinker Creek and 28°C for sections of the Roanoke River.</p> <p><u>ee. Maximum temperature for these seasonally stockable trout waters is 26°C and applies May 1 through October 31.</u></p> <p><u>ff. Maximum temperature for these seasonally stockable trout waters is 28°C and applies May 1 through October 31.</u></p> <p>Correspondingly, in Section 9VAC25-260-450 Roanoke River Basin. Added <u>ee</u> to SP. STDS column. Section 6d: Tinker Creek from its confluence with the Roanoke River north to Routes 11 and 220. Added <u>ff</u> to SP. STDS column in the following: Section 6. Roanoke River from its junction from Routes 11 and 419 to Salem's #1 raw water intake; Section 7a. Roanoke River from Salem's #1 raw water intake to a point 5 miles upstream from Salem's #2 raw water intake; and Section 7b. Roanoke River from the Spring Hollow Reservoir intake to the Floyd-Montgomery County line.</p>	The waters to which these new standards apply are naturally warmer waters that are stocked with trout during the winter months in order to provide additional fishing opportunities to the public. The stocked trout can survive in these waterbodies during the cold winter season, but are not expected to survive the following summer under natural conditions. Application of a 21°C maximum temperature year-round to protect trout is inappropriate in these non-trout habitat waters and does not reflect the natural thermal regime. VADEQ's consultations with U.S. Fish and Wildlife Service and Department of Game and Inland Fisheries (DGIF) resulted in a recommended maximum temperature of 26°C for Tinker Creek and 28°C for the Roanoke River. The new special standards represent the normal expected temperatures of these waters during the warmer seasons.
gg.	Changed here to <u>in this river section</u>	Modification for clarification purposes.
9 VAC 25-260-360 to 9 VAC 25-260-540		
9 VAC 25-260-390.1c. Potomac River Basin. (Potomac River Subbasin) and 9 VAC 25-260-187.B	Corrected spelling of Able to <u>Abel</u> .	Typo correction.
9 VAC 25-260 390.4, 4a and 4b. Potomac River Basin. (Potomac River Subbasin)	Deleted d .	Special standard "d" was cancelled in 2013.

Section	Description of Revision	EPA Approval Rationale
9 VAC 25-260-390. 5b. Potomac River Basin. (Potomac River Subbasin)	Added <u>upstream</u> to clarify delineation of section.	Modification for clarification purposes.
9 VAC 25-260-390. 8a. Potomac River Basin. (Potomac River Subbasin)	Deleted <u>below</u> .	Typo correction.
9 VAC 25-260-390. 9. Potomac River Basin. (Potomac River Subbasin)	Correcting spelling of <u>Syeoline-Sycolin</u> Creek.	Modification for clarification purposes.
9 VAC 25-260-390. 9b&c. Potomac River Basin (Potomac River Subbasin)	Typo correction. 1980's to <u>1980s</u> .	Typo correction.
9 VAC 25-260-400.2 Potomac River Basin (Shenandoah River Subbasin)	Changed <u>EWS</u> to correct <u>ESW</u> . Moved "vicinity to outside the parenthetical.	Typo correction.
9 VAC 25-260-400.3c Potomac River Basin (Shenandoah River Subbasin)	Changed <u>one-half</u> to <u>0.5</u> miles.	Modification for clarification purposes.
9 VAC 25-260-400.6 Potomac River Basin (Shenandoah River Subbasin)	Corrected the description from <u>Shoemaker</u> to <u>its</u> .	Modification for clarification purposes.
9 VAC 25-260-400. 6b Potomac River Basin (Shenandoah River Subbasin)	Added <u>river mile</u> to the description.	Modification for clarification purposes.
9 VAC 25-260-400. 6d Potomac River Basin (Shenandoah River Subbasin)	Changed <u>1/4</u> to <u>0.25</u> .	Modification for clarification purposes.

Section	Description of Revision	EPA Approval Rationale
9 VAC 25-260-410.1o James River Basin (Lower)	Clarification of Public Water Supply (PWS) delineation. Revised Section 1o. James River from City Point (Hopewell) to a point 5 miles above American Tobacco Company's raw water intake <u>upstream</u>	Virginia deleted a portion of the public water supply (PWS) designation in special standards section 9 VAC 25-260-410.1o James River Basin (Lower). The portion deleted is from the American Tobacco Company (now Sustainability Park, LLC) raw water intake to a point 5 miles upstream. The remaining segment, from City Point (Hopewell) to a point 5 miles upstream as described, remains designated as a PWS. Virginia submitted the following documents in support of the designated use change: Use and Value Demonstration regarding deletion of the PWS designation on the lower James River dated May 3, 2017; Virginia Regulatory Town Hall documentation (undated) which contains background information on this PWS designated use change; and Supporting Rationale and Documentation dated December 2016, which also contains background information on this PWS designated use change. According to this documentation, the Virginia Health Department (VDH) reported that there may have been a raw water intake there in early days of the tobacco processing plant and the intake was most likely for industrial (process) water. No known intake has been there for domestic water in the past 35 years. VDH could not find any records about a domestic water intake at that location in years prior to 1978. The waterbody segment is located in Chesterfield County, Virginia. Future growth [for local water supply] is anticipated in Chesterfield County but not at the Sustainability Park, LLC site. Based on review of the Virginia revisions and the supporting evidence, EPA finds that the designated use change is consistent with the CWA and WQS regulation at 40 CFR Part 131.
9 VAC 25-260-410.2. James River Basin (Lower).	Deleted from the description James River from Buoy 64 to Brandon and free flowing tributaries of the	Modification for clarification purposes. Does not alter segment's designated use.
9 VAC 25-260-410.2a. James River Basin (Lower)	Changed News' to <u>News's</u> .	Typo correction.
9 VAC 25-260-410.3. James River Basin (Lower)	Changed rivermile to <u>river mile</u> .	Typo correction.
9 VAC 25-260-415. 5c. James River Basin (Lower) (Appomattox River Subbasin).	Typo correction; should read <u>5.54</u> river miles instead of .54 . And moved Winticomack Creek from section 5f to 5c.	Modification for clarification purposes.

Section	Description of Revision	EPA Approval Rationale
9 VAC 25-260-440. Rappahannock	Changed Class from I to i	Typo correction.
9 VAC 25-260-450. 2b. Roanoke River Basin	Changed Line to <u>line</u> .	Typo correction.
9 VAC 25-260-450.3&3g. Roanoke River Basin	Changed N.C. to <u>North Carolina</u> .	Modification for clarification purposes.
9 VAC 25-260-450.4b Roanoke River Basin	Changed 1/4 to <u>0.25</u> .	Modification for clarification purposes.
9 VAC 25-260-450.5a Roanoke River Basin	Added <u>PWS</u> to SP. STDS column. Section 5a: Tributaries to the Roanoke Staunton River from the headwaters of the John Kerr Reservoir to Leesville Dam.	According to VADEQ the notation was somehow deleted from the text in the process of the last Triennial review. The effect of this revision is that water quality criteria for the protection of PWS use listed in the Table of Parameters in Section 9 VAC 25-260-140. now apply to the named segment in Section 5a. F. EPA finds that this provision is consistent with the CWA and the regulation at 40 CFR 131.
9 VAC 25-260-450.7b. Roanoke River Basin.	Added <u>Floyd</u> to the description.	Modification for clarification purposes.
9 VAC 25-260-470.2c. Chowan and Dismal Swamp (Chowan River Subbasin)	Added <u>and its tributaries</u> to the description.	Modification for clarification purposes. EPA approved the designation of these tributaries as swamp waters in 2009.
9 VAC 25-260-470.2f. Chowan and Dismal Swamp (Chowan River Subbasin)	Changed above the raw water intake to <u>upstream</u> .	Modification for clarification purposes.
9 VAC 25-260-470.3. Chowan and Dismal Swamp (Chowan River Subbasin).	Corrected spelling of Fountains to <u>Fontaine</u> .	Typo correction.
9 VAC 25-260-510.1 Tennessee and Big Sandy River Basins (Holston River Subbasin)	Changed Tumbling creek 7.1 miles to <u>including all named and unnamed tributaries</u> . Deleted Big Tumbling creek from it confluence with the North Fork Holston River upstream including all named and unnamed tributaries.	Modification for clarification purposes. Big Tumbling Creek does not exist.

Section	Description of Revision	EPA Approval Rationale
9 VAC 25-260-510.1 Tennessee and Big Sandy River Basins (Holston River Subbasin)	Brumley Creek from its confluence with the North Fork Holston River Upstream to the <u>Hidden Valley Lake dam</u> including all named and unnamed tributaries	According to the information submitted by VADEQ, Hidden Valley Lake is formed from Brumley Creek and the language amended to clarify the trout water designation ends at the dam. The result of this change is that Hidden Valley Lake is now designated as Class IV, mountainous zone waters. Documentation from VADEQ shows that the natural trout water is not an existing use in the lake and that because it is a dammed impoundment it does not have the low temperature of natural trout waters. EPA finds that the designated use change is consistent with the CWA and WQS regulation at 40 CFR Part 131.
9 VAC 25-260-510.5 Tennessee and Big Sandy River Basins (Holston River Subbasin)	Added <u>Jefferson</u> to the description.	Modification for clarification purposes.
9 VAC 25-260-510.6. Tennessee and Big Sandy River Basins (Holston River Subbasin)	Added <u>Virginia-North Carolina</u> .	Modification for clarification purposes.
9 VAC 25-260-520.1 Chesapeake Bay, Atlantic Ocean and small coastal basins.	Added <u>Virginia</u> to the description.	Modification for clarification purposes.
9 VAC 25-260-520.1 Chesapeake Bay, Atlantic Ocean and small coastal basins.	Changed broader to <u>state line</u> .	Modification for clarification purposes.
9 VAC 25-260-530.3 York River Basin.	Changed Water to <u>water</u> .	Correction of typographical error.
9 VAC 25-260-530.3b York River Basin.	Changed $\frac{1}{8}$ to <u>0.125</u> .	Modification for clarification purposes.
9VAC25-260-530.3e York River Basin.	Changed $\frac{1}{2}$ to <u>0.5</u> .	Modification for clarification purposes.
9 VAC 25-260-540.1j. New River Basin.	Changed Pochahontas ² to <u>Pochahonta's</u> .	Correction of typographical error.
9 VAC 25-260-540.2. New River Basin.	Changed Grayson County Ashe County to <u>Virginia-North Carolina</u> ; added <u>Virginia-North Carolina</u> and revised <u>Mount Rogers National Forest Recreation Area</u> .	Modification for clarification purposes.
9 VAC 25-260-540.2a. New River Basin.	Name change. Blacksburg Christiansburg , V.P.I. to <u>NRV</u> .	Modification for clarification purposes. Name change for the water authority to New River Valley (NRV).

Section	Description of Revision	EPA Approval Rationale
9 VAC 25-260-540.2i. New River Basin.	Added to the description. <u>from river mile 141.36 to river mile 144.29.</u>	Modification for clarification purposes.
9 VAC 25-260-540.2j. New River Basin.	Changed <u>Fries'</u> to <u>Fries's.</u>	Correction of typographical error.
9 VAC 25-260-540.2k. New River Basin.	Clarified description. <u>Stuart Reservoir section of the New River to New River from Stuart Dam at N36°36'08/W81°18'40 upstream 2.29 miles.</u>	Modification for clarification purposes.
The following waterbodies are being re-designated from Class III to Class VII waters. The applicable dissolved oxygen and pH criteria as described in water quality standards section 9 VAC 25-260-50 will apply.		
9 VAC 25-260-390. Potomac River Basin (Potomac River Sub basin)	Section 1a. All free flowing portions of tributaries to the Potomac River from Smith Point to the Route 301 Bridge in King George County. <u>Mattox Creek and its tributaries from the head of tidal waters to their headwaters. Monroe Creek and tributaries from the head of tidal waters at Route 658 to their headwaters. Popes Creek and Canal Swamp (a tributary to the tidal portion of Popes Creek) and their tributaries from the head of tidal waters to their respective headwaters.</u>	VADEQ is designating these waters as swamp waters to address naturally low DO & pH in swamp water streams and river. As VADEQ explains in the Natural Condition Assessment Report for the waterbody segments, these waters are slow moving with significant wetland influences and significant amounts of decaying vegetation input that influence the natural expression of DO and pH as is typical of swamp waters. Based on a review of the submission and supporting documentation, EPA finds that the designated use change is consistent with the CWA and WQS regulation at 40 CFR Part 131.
9 VAC 25-260-410. James River Basin (Lower)	Section 1g. Shingle Creek from its confluence with the Nansemond River to its headwaters in the Dismal Swamp. <u>Shingle Creek and its tributaries from the head of tide (approximately 500 feet downstream of Route 13/337) to their headwaters. Rumley Marsh and tributaries from the confluence of an unnamed tributary at river mile 2.61, upstream to the confluence with Beus Swamp. Beus Swamp, Piney Branch and Pelham Swamp above the confluence of Beus Swamp are excluded. Stony Run and tributaries from the confluence with Chickahominy River to their headwaters.</u>	See above rationale.
9 VAC 25-260-440. Rappahannock River Basin	Section 2. Free flowing tributaries of the Rappahannock River to its tidal headwaters. <u>Hoskins Creek and its nontidal tributaries from the head of tidal waters to their headwaters.</u> Section 4. Free flowing tributaries of the Rappahannock from Blandfield Point to its headwaters. <u>Goldendale Creek from the head of tidal waters near the confluence with the Rappahannock River to its headwaters.</u>	See above rationale.

Section	Description of Revision	EPA Approval Rationale
9 VAC 25-260-470. Chowan and Dismal Swamp (Chowan River Subbasin)	Section 3 Meherrin River and its tributaries in Virginia from the Virginia-North Carolina state line to its headwaters. <u>Cattail Creek and its tributaries from its confluence with Fontaine Creek to their headwaters.</u>	See above rationale.
9 VAC 25-260-520. Chesapeake Bay, Atlantic Ocean and small coastal basins	Section 2d. The free flowing streams tributary to the western portion of the Chesapeake Bay lying between the Virginia-Maryland state line and Old Point Comfort. <u>Briery Swamp and tributaries from the confluence with Dragon Swamp to their headwaters. Contrary Swamp from the confluence with Dragon Swamp to its headwaters. Crany Creek from its confluence with Fox Mill Run to its headwaters. Dragon Run and its tributaries from the confluence with Dragon Swamp to their headwaters. Dragon Swamp and tributaries from the head of tidal waters at river mile 4.60 to their headwaters. Exol Swamp and tributaries from the confluence with Dragon Swamp to their headwaters. Fox Mill Run from the head of tidal waters to its headwaters. Holmes Swamp and its tributaries from the confluence with Exol Swamp to their headwaters. Northwest Branch Severn River from the head of tidal waters near Severn Hall Lane to its headwaters. Timber Branch Swamp and its tributaries from the confluence with Dragon Swamp to their headwaters. Yorkers Swamp and its tributaries from the confluence with Dragon Swamp to their headwaters. White Marsh and its tributaries from the confluence with Dragon Swamp to their headwaters.</u>	See above rationale.
9 VAC 25-260-530. York River Basin	Section 3. Free flowing portions of the Mattaponi and Pamunkey Rivers, free flowing tributaries of the Mattaponi above Clifton, and free flowing tributaries of the Pamunkey above Romancoke. <u>Garnetts Creek and tributaries from the head of tidal waters upstream to include Dickeys Swamp and its tributaries. Hornquarter Creek from its confluence with the Pamunkey River to its headwaters. Jacks Creek and tributaries from the head of tidal waters to their headwaters. Monquin (Moncuin) Creek and its tributaries from the head of tidal waters to their headwaters. Totopotomoy Creek from its confluence with the Pamunkey River to its headwater.</u>	See above rationale.

Table 2
Revisions to VAWQS that EPA is not taking action on as they are not considered a change to WQS

Section	Description of Revision	EPA Rationale
9 VAC 25-260-5. Definitions		
Wetlands	Added definition for wetlands. Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.	New wetlands definition to clarify term used in other sections of 9 VAC 25-260 VAWQS. The definition doesn't affect or alter how the WQSs apply.
9 VAC 25-260-140.G Criteria for Surface Water. Biotic Ligand Model (BLM) for copper		

Section	Description of Revision	EPA Rationale
Copper	<p><u>New Section Added. On a case by case basis, EPA's 2007 copper criteria (EPA-822-F-07-001) biotic ligand model (BLM) for copper may be used to determine alternate copper criteria for freshwater sites. The BLM is a bioavailability model that uses receiving water characteristics to develop site-specific criteria. Site-specific data for ten parameters are needed to use the BLM. These parameters are; temperature, pH, dissolved organic carbon, calcium, magnesium, sodium, potassium, sulfate, chloride and alkalinity. If sufficient data for these parameters are available, the BLM can be used to calculate alternate criteria values for the copper criteria. The BLM would be used instead of the hardness based criteria and a takes the place of the hardness adjustment and the WER. A WER will not be applicable with the BLM.</u></p> <p>Correspondingly Added to 9VAC 25-260-140.G Biotic Ligand Model (BLM) option for copper criteria. <u>Alternate Copper Criteria in Freshwater: The freshwater criteria for copper can also be calculated using the EPA 2007 Biotic Ligand Model (See 9VAC 25-260-140.G)</u></p>	<p>DEQ is adding the BLM as an optional alternate approach for deriving site specific copper criteria for freshwaters. EPA commends VADEQ for adopting the biotic ligand model as an option to derive site-specific criteria for copper. The BLM has been EPA's nationally recommended water quality criteria for copper since 2007 and reflects the most up-to-date science for predicting copper toxicity to aquatic organisms under a range of conditions. Virginia's regulations specify that site-specific data for 10 parameters are needed to use the BLM. EPA notes that in the absence of such ambient site-specific data, Virginia may also choose to estimate missing parameters using EPA's <u>Technical Support Document: Recommended Estimates for Missing Water Quality Parameters for Application in EPA's Biotic Ligand Model</u>, which provides ecoregional estimates at the tenth percentile. Because the revision provides for the application of BLM optionally, this provision is not legally binding. It is therefore not a new or revised WQS under section 303(c) of the CWA, and it is not subject to EPA's approval under that section. Virginia must submit any site-specific criteria derived using the BLM to EPA for review under section 303(c) of the CWA. EPA staff are available to provide technical assistance in using the BLM. EPA would also be amenable to helping Virginia adopt the copper BLM in such a manner that incorporates adequate detail to ensure resulting applications will be protective of aquatic life, including threatened and endangered species. If Virginia were to adopt the BLM in the future as a binding approach with sufficient specificity to ensure protective outcomes, and EPA reviews and approves that approach under Section 303(c), the application of the BLM to specific sites would not be reviewed individually under CWA section 303(c).</p>
9 VAC 25-260-310. Special Standards and Requirements.		

Section	Description of Revision	EPA Rationale
m. effluent Limitation to wastewater treatment facilities in the Chickahominy watershed above Walkers Dam	Amend Chickahominy special standard ‘m’ to include language to clarify that the effluent limitations applicable to all wastewater treatment facilities in the Chickahominy River basin above Walker’s Dam only apply to treatment facilities treating an organic nutrient source. The following effluent limitations apply to wastewater treatment facilities <u>treating an organic nutrient source</u> in the entire Chickahominy watershed above Walker's Dam.	This amended clarifies that Special standard “m” applies to wastewater facilities treating an organic nutrient source and does not apply to facilities not treating organic wastewater. EPA understands that the intent of this special standard is to protect the Chickahominy River from excessive nutrient inputs and to protect Chickahominy Lake from eutrophication. The effluent limits focus on nutrient-related organic pollution and address biochemical oxygen demand, ammonia nitrogen, total phosphorus, as well as settleable and suspended solids. These effluent limits are based on limits achievable with a well-managed domestic wastewater treatment plant designed to treat organic waste. DEQ staff believes that for discharges of nonorganic waste, the effluent limits required by the Virginia Industrial Discharge General Permit are more appropriate. EPA is not taking action on this revision as these effluent limitations are not water quality standards under CWA 303(c).
9 VAC 25-260-360 to 9 VAC 25-260-540		
9 VAC 25-260-450. 6i. Roanoke River Basin	<u>NEW-1</u> notation inadvertently dropped in previous publication.	Typo correction. According to Virginia, the notation was inadvertently dropped from the text in the regulation a number of years ago. Whenever any water body is designated as "nutrient enriched waters," the board shall modify the VPDES permits of point source dischargers into the "nutrient enriched waters" as provided in the board's Policy for Nutrient Enriched Waters (9VAC25-40). EPA is not taking action on this revision as this effluent limitation policy is not water quality standards under CWA 303(c).

Note 1. According to VADEQ, in the 2007 Triennial Review, VADEQ updated its human health criteria for several poly-aromatic hydrocarbon (PAH) compounds, based on the updated (11/01/1994) oral slope factor in IRIS of 7.3 per mg/kg per day for benzo[a]pyrene. At that time Virginia (and EPA) based the human health criteria for several, similar PAHs on the oral slope factor of benzo[a]pyrene and a bioconcentration factor of 30. This oral slope factor and bioconcentration factor were used to calculate the human health criteria for Chrysene, as well as the similar PAHs of; benzo[a]pyrene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene. Consequently, the Human Health Criteria for public water supplies for all these PAH compounds are calculated by the formula; (Body Weight (70 kg) X cancer risk of 1 in 100,000 (0.00001)) / (oral slope factor 7.3 mg/kg/day) X (water consumption rate (2 liters) + (fish consumption rate (0.00175 kg/day) X bioconcentration factor (30))) = 0.000037976 mg/L. This criterion concentration was converted into ug/L and rounded to two significant digits, resulting in a criterion concentration of 0.038 ug/L for public water supplies. All of these PAH compounds have the same criteria concentrations of 0.038 ug/L for public water supplies (exposure from drinking 2 liters of water a day and eating 0.0175 kg/day of locally caught fish), or a criterion concentration of 0.18 ug/L for nonpublic water supplies where the potential exposure is only from eating locally caught fish or shellfish. Somehow, in the Virginia Water Quality Standards file, contained in the Virginia Legislative Information Services, the criterion concentration for Chrysene showed a misplaced decimal point, showing 0.0038 ug/L in the drinking water criterion concentration. This misplaced decimal point is a typographical error. This error was corrected during this triennial review.

Note 2. According to VADEQ, the deletion of the “160” was necessary because this was due to a software problem that left the “old” criterion concentration as well as the “new” criterion during the 2007 Triennial Review. The method used in proposing amendments to regulatory statutes in Virginia utilizes the “official” electronic file copy of the Virginia Water Quality Standards that is filed in the Virginia Legislative Information Services. Any proposed changes are shown as underlined text, and proposed deletions are shown as ~~Strikethrough~~ text. Once the proposed amendments are finalized and adopted, the official electronic file in the Virginia Legislative Information Services is supposed to

automatically convert the proposed text to final adopted text by automatically deleting the struck-through text entirely and removing the underline from the “new” text just adopted. This method was designed to convert with one keystroke the entire document by deleting the old text and leaving the new text as well as all the original text that remained unchanged. This was a new electronic system that Virginia began to use about this time. In this case, VADEQ had updated the criteria values for this chemical and had proposed deleting the old criterion concentration of 160 and replacing it with the new updated concentration of 60 ug/L. This change was needed at that time because VADEQ was updating the Virginia Human Health Criteria to reflect the updated fish-consumption rate of 0.0175 kg/day instead of the old 0.0065 kg/day rate, as per EPA’s recommendations. In the case of N-Ntrosodiphenylamine, this ‘software conversion’ didn’t work properly in the official file of Virginia’s Regulation maintained by the Virginia Legislative Information Services. The software correctly inserted the newly adopted 60 ug/L criterion concentration and removed the strikethrough but left the old concentration of 160 in the text. The official file shows both the deleted 160 concentration as well as the adopted 60 concentration. This was a typographical error caused by some technical glitch in the conversion software. This error was corrected during the 2013 triennial review. During EPA’s review of the 2007 triennial, the change that EPA reviewed and approved was newly adopted 60 microg/l, as shown here.

Table 3
Revisions to VAWQS that EPA is deferring a decision under CWA 303(c)

Section	Description of Revision	EPA Rationale
9 VAC 25-260-310. Special Standards and Requirements.		
9 VAC 25-260-460. 1. Yadkin River Basin	Clarified the description to read Lovills Creek and <u>its tributaries</u> from <u>the headwaters of the impoundment formed by the</u> Natural Resource Conservation Service dam (1.8 miles above the Virginia North Carolina state line) to <u>their headwaters</u> .	Lovills Creek This revision change removes natural trout water designated of the lake. The designation for the lake is now Class IV, mountainous zone waters. EPA is still considering this use change within the context of 40 C.F.R. 131.10, and is not taking a CWA 303(c)(3) action at this time.

