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Emergency Regulation Agency Background Document

Agency name	State Water Control Board
Virginia Administrative Code (VAC) citation	9 VAC 25-260-185
Regulation title	Water Quality Standards
Action title	Amending the Chesapeake Bay nutrient criteria to include 2007, 2008 and 2010 Chesapeake Bay criteria assessment protocols addenda.
Date this document prepared	November 10, 2010

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 14 (2010) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

Preamble

The APA (Code of Virginia § 2.2-4011) states that (i) regulations that an agency finds are necessitated by an emergency situation may be adopted by an agency upon consultation with the Attorney General, which approval shall be granted only after the agency has submitted a request stating in writing the nature of the emergency, and the necessity for such action shall be at the sole discretion of the Governor and (ii) agencies may also adopt emergency regulations in situations in which Virginia statutory law or the appropriation act or federal law or federal regulation requires that a regulation be effective in 280 days or less from its enactment, and the regulation is not exempt under the provisions of subdivision A 4 of § 2.2-4006.

- 1) Please explain why this is an "emergency situation" as described above.
- 2) Summarize the key provisions of the new regulation or substantive changes to an existing regulation.

The timing of an ongoing rulemaking process to amend the Water Quality Standards Regulation (9VAC25-260-185) to include the October 2007, September 2008 and May 2010 Chesapeake Bay Criteria Assessment Protocols addenda may not be completed in time to ensure the incorporation of the recently published protocols by the December 31, 2010 deadline. The protocols are being used by the U.S. EPA to develop the Total Maximum Daily Loads (TMDLs) for the Bay and its tidal rivers. TMDLs must be developed in accordance with approved water quality standards and it is necessary for the VA standards to refer to each of the addenda published by EPA.

Legal basis

Other than the emergency authority described above, please identify the state and/or federal legal authority to promulgate this proposed regulation, including: 1) the most relevant law and/or regulation, including Code of Virginia citation and General Assembly chapter number(s), if applicable, and 2) the promulgating entity, i.e., agency, board, or person. Describe the legal authority and the extent to which the authority is mandatory or discretionary. Please include a citation to the emergency language.

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 at 303(c) mandates the State Water Control Board to review and, as appropriate, modify and adopt water quality standards. The promulgating entity is the State Water Control Board.

The corresponding federal water quality standards regulation at 40 CFR 131.6 describes the minimum requirements for water quality standards. The minimum requirements 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 Environmental Protection Agency (EPA) Water Quality Standards regulation (40 CFR 131.11) is the regulatory basis for the EPA requiring the states to establish water quality criteria to protect designated uses and the criteria are used to assess whether or not a waterbody is meeting those uses.

Substance

Please detail any changes that are proposed. Please outline new substantive provisions, all substantive changes to existing sections, or both where appropriate. Set forth the specific reasons the agency has determined that the proposed regulatory action is essential to protect the health, safety, or welfare of Virginians.

Current section number	Current requirement			Proposed change and rationale
9 VAC 25-260-185	A. Dissolved oxygen.			Amending section 9VAC25-260-185 D.3. to include references to Chesapeake Bay Criteria Assessment Protocols Addenda 2007 (CBP/TRS 288/07, EPA 903-R-07-005), 2008 (CBP/TRS 290-08, EPA 903-R-08-001, and 2010 (CBP/TRS 301-10, EPA 903-R-10-002). These recently published protocols are being used by EPA to develop the Total Maximum Daily Loads for the Bay and its tidal rivers. TMDLs must be developed in accordance with approved water quality
	Designated Use	Criteria Concentration/ Duration	Temporal Application	
	Migratory fish spawning and nursery	7-day mean \geq 6 mg/l (tidal habitats with 0-0.5 ppt salinity)	February 1 - May 31	
		Instantaneous minimum \geq 5 mg/l		
	Open water ¹	30 day mean \geq 5.5 mg/l (tidal habitats with 0-0.5 ppt salinity)	year-round ²	
		30 day mean \geq 5 mg/l (tidal habitats with > 0.5 ppt salinity)		
7 day mean \geq 4 mg/l				

	Instantaneous minimum ≥ 3.2 mg/l at temperatures $< 29^{\circ}\text{C}$ Instantaneous minimum ≥ 4.3 mg/l at temperatures $\geq 29^{\circ}\text{C}$	
Deep water	30 day mean ≥ 3 mg/l	June 1 - September 30
	1 day mean ≥ 2.3 mg/l	
	Instantaneous minimum ≥ 1.7 mg/l	
Deep channel	Instantaneous minimum ≥ 1 mg/l	June 1 - September 30

standards and it is necessary for the VA standards to refer to each of the addenda published by EPA.

Minor changes to correct typographical and grammatical errors in subsection A to correct an incorrect section reference for the Antidegradation Policy; footnote 1 to subsection B to add the words "shall be used" to the end of the sentence; subsection D.1. to correct two misspellings of "Rappahannock"; subsection D.2. to delete an extra word (the) and add the words "shall be used" to the end of the sentence; and subsection D.3. to correct an existing assessment addendum reference. (CBA/TRS 285-07, EPA 903-R-07-003 to CBP/TRS 285-07, EPA 903-R-07-003)

¹In applying this open water instantaneous criterion to the Chesapeake Bay and its tidal tributaries where the existing water quality for dissolved oxygen exceeds an instantaneous minimum of 3.2 mg/l, that higher water quality for dissolved oxygen shall be provided antidegradation protection in accordance with 9VAC 25-610-30 A.2.

²Open-water dissolved oxygen criteria attainment is assessed separately over two time periods: summer (June 1- September 30) and nonsummer (October 1-May 31) months.

B. Submerged aquatic vegetation and water clarity. Attainment of the shallow-water submerged aquatic vegetation designated use shall be determined using any one of the following criteria:

Designated Use	Chesapeake Bay Program Segment	SAV Acres ¹	Percent Light-Through-Water ²	Water Clarity Acres ¹	Temporal Application
Shallow Water Submerged Aquatic Vegetation Use	CB5MH	7,633	22%	14,514	April 1 - October 31
	CB6PH	1,267	22%	3,168	March 1 - November 30
	CB7PH	15,107	22%	34,085	March 1 - November 30
	CB8PH	11	22%	28	March 1 - November 30
	POTTF	2,093	13%	5,233	April 1 - October 31
	POTOH	1,503	13%	3,758	April 1 - October 31
	POTMH	4,250	22%	10,625	April 1 - October 31
	RPPTF	66	13%	165	April 1 - October 31
	RPPOH	4	13%	10	April 1 - October 31
	RPPMH	1700	22%	5000	April 1 - October 31
	CRRMH	768	22%	1,920	April 1 - October 31
	PIAMH	3,479	22%	8,014	April 1 - October 31
	MPNTF	85	13%	213	April 1 - October 31
MPNOH	-	-	-	-	

PMKTF	187	13%	468	April 1 - October 31
PMKOH	-	-	-	-
YRKMH	239	22%	598	April 1 - October 31
YRKPH	2,793	22%	6,982	March 1 - November 30
MOBPH	15,901	22%	33,990	March 1 - November 30
JMSTF2	200	13%	500	April 1 - October 31
JMSTF1	1000	13%	2500	April 1 - October 31
APPTF	379	13%	948	April 1 - October 31
JMSOH	15	13%	38	April 1 - October 31
CHKOH	535	13%	1,338	April 1 - October 31
JMSMH	200	22%	500	April 1 - October 31
JMSPH	300	22%	750	March 1 - November 30
WBEMH	-	-	-	-
SBEMH	-	-	-	-
EBEMH	-	-	-	-
ELIPH	-	-	-	-
LYNPH	107	22%	268	March 1 - November 30
POCOH	-	-	-	-
POCMH	4,066	22%	9,368	April 1 - October 31
TANMH	13,579	22%	22,064	April 1 - October 31

¹The assessment period for SAV and water clarity acres shall be the single best year in the most recent three consecutive years. When three consecutive years of data are not available, a minimum of three years within the data assessment window.

²Percent Light through Water = $100e^{(-K_dZ)}$ where K_d is water column light attenuation coefficient and can be measured directly or converted from a measured secchi depth where $K_d = 1.45/\text{secchi depth}$. Z = depth at location of measurement of K_d .

C. Chlorophyll a.

Designated Use	Chlorophyll a Narrative Criterion	Temporal Application
Open Water	Concentrations of chlorophyll a in free-floating microscopic aquatic plants (algae) shall not exceed levels that result in undesirable or nuisance aquatic plant life, or render tidal waters unsuitable for the propagation and growth of a balanced, indigenous population of aquatic life or otherwise result in	March 1 - September 30

ecologically undesirable water quality conditions such as reduced water clarity, low dissolved oxygen, food supply imbalances, proliferation of species deemed potentially harmful to aquatic life or humans or aesthetically objectionable conditions.

*See 9VAC25-260-310 special standard bb for numerical chlorophyll criteria for the tidal James River.

D. Implementation.

1. Chesapeake Bay program segmentation scheme as described in Chesapeake Bay Program, 2004 Chesapeake Bay Program Analytical Segmentation Scheme-Revisions, Decisions and Rationales: 1983—2003, CBP/TRS 268/04, EPA 903-R-04-008, Chesapeake Bay Program, Annapolis, Maryland, and the Chesapeake Bay Program published 2005 addendum (CBP/TRS 278-06; EPA 903-R-05-004) is listed below and shall be used as the spatial assessment unit to determine attainment of the criteria in this section for each designated use.

Chesapeake Bay Segment Description	Segment Name ¹	Chesapeake Bay Segment Description	Segment Name ¹
Lower Central Chesapeake Bay	CB5MH	Mobjack Bay	MOBPH
Western Lower Chesapeake Bay	CB6PH	Upper Tidal Fresh James River	JMSTF2
Eastern Lower Chesapeake Bay	CB7PH	Lower Tidal Fresh James River	JMSTF1
Mouth of the Chesapeake Bay	CB8PH	Appomattox River	APPTF
Upper Potomac River	POTTF	Middle James River	JMSOH
Middle Potomac River	POTOH	Chickahominy River	CHKOH
Lower Potomac River	POTMH	Lower James River	JMSMH
Upper Rappahannock River	RPPTF	Mouth of the James River	JMSPH
Middle Rappahannock River	RPPOH	Western Branch Elizabeth River	WBEMH
Lower Rappahannock River	RPPMH	Southern Branch Elizabeth River	SBEMH
Corrotoman River	CRRMH	Eastern Branch Elizabeth River	EBEMH
Piankatank River	PIAMH	Lafayette River	LAFMH
Upper Mattaponi River	MPNTF	Mouth of the Elizabeth River	ELIPH
Lower Mattaponi River	MPNOH	Lynnhaven River	LYNPH
Upper Pamunkey River	PMKTF	Middle Pocomoke River	POCOH
Lower Pamunkey River	PMKOH	Lower Pocomoke River	POCMH
Middle York River	YRKMH	Tangier Sound	TANMH

Lower York River	YRKPH			
<p>¹First three letters of segment name represent Chesapeake Bay segment description, letters four and five represent the salinity regime of that segment (TF = Tidal Fresh, OH = Oligohaline, MH = Mesohaline and PH = Polyhaline) and a sixth space is reserved for subdivisions of that segment.</p> <p>2. The assessment period shall be the most recent three consecutive years. When three consecutive years of data are not available, a minimum of three years within the the data assessment window.</p> <p>3. Attainment of these criteria shall be assessed through comparison of the generated cumulative frequency distribution of the monitoring data to the applicable criteria reference curve for each designated use. If the monitoring data cumulative frequency curve is completely contained inside the reference curve, then the segment is in attainment of the designated use. The reference curves and procedures to be followed are published in the USEPA, Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and Its Tidal Tributaries, EPA 903-R-03-002, April 2003 and the 2004 (EPA 903-R-03-002 October 2004), and 2007 (CBA/TRS 285-07, EPA 903-R-07-003) addenda. An exception to this requirement is in measuring attainment of the SAV and water clarity acres, which are compared directly to the criteria.</p>				

In addition, the Documents Incorporated By Reference section of 9VAC25-260 is being amended to reflect the additional addenda that is being inserted into 9VAC25-260-185 D 3. (2007 (CBP/TRS 288/07, EPA 903-R-07-005), 2008 (CBP/TRS 290-08, EPA 903-R-08-001, and 2010 (CBP/TRS 301-10, EPA 903-R-10-002)).

These recently published protocols are being used by EPA to develop the Total Maximum Daily Loads for the Bay and its tidal rivers. TMDLs must be developed in accordance with approved water quality standards and it is necessary for the VA standards to refer to each of the addenda published by EPA.

Alternatives

Please describe all viable alternatives to the proposed regulatory action that have been considered to meet the essential purpose of the action.

The primary alternative considered to date was to leave the regulation unchanged. This was not the alternative chosen because the updated assessment protocols were developed by EPA through a collaborative process within the Federal-Interstate Chesapeake Bay Program. These recently published protocols are being used by EPA to develop the Total Maximum Daily Loads (TMDLs) for the Bay and its tidal rivers. TMDLs must be developed in accordance with approved water quality standards. Therefore it is necessary for the Virginia standards to refer to each of the addenda published by EPA.

Regulatory Flexibility Analysis

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.

Analysis not performed as no small businesses are affected and assessment protocols do not have a direct effect on compliance or reporting schedules and/or requirements.

Family impact

Please assess the impact of the emergency 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 development of water quality standards is for the protection of public health and safety, which has only an indirect impact on families.