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Final Regulation Agency Background Document

Agency name	State Water Control Board (Board)
Virginia Administrative Code (VAC) citation(s)	9VAC25-260
Regulation title(s)	Water Quality Standards
Action title	Triennial Review Remaining Issues - BACH (Bacteria, Ammonia, Cadmium and Human Health)

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Order 14 (as amended, July 16, 2018), the Regulations for Filing and Publishing Agency Regulations (1 VAC7-10), and the *Virginia Register Form, Style, and Procedure Manual for Publication of Virginia Regulations*.

Brief Summary

Please provide a brief summary (preferably no more than 2 or 3 paragraphs) of this regulatory change (i.e., new regulation, amendments to an existing regulation, or repeal of an existing regulation). Alert the reader to all substantive matters. If applicable, generally describe the existing regulation.

Amendments to Virginia's Water Quality Standards Regulation (9 VAC 25-260) have been adopted to revise section 155, which updates the ammonia criteria for the protection of freshwater aquatic life and includes implementation options for regulated dischargers. The following substantive changes have been made since the proposed action was published:

- Addition of language stating the 4-day average ammonia concentration in freshwater may not exceed 2.5 times the chronic criterion within a 30 day period, more than once every 3 years on the average.
- Addition of the Phased Implementation Plan language.

The amendments to the ammonia criteria resulted from continuation of the Triennial Review (TR) 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). (For details of the initial TR action see <http://townhall.virginia.gov/L/ViewAction.cfm?actionid=4017>)

The Board, at its meeting on January 14, 2016, adopted several amendments to the water quality standards but postponed adoption of the bacteria, ammonia, cadmium and human health (BACH) amendments included in the initial TR proposal in response to public comments and concerns and to provide an opportunity for the Department of Environmental Quality (DEQ) to gather additional information, utilize the most current information and further consult with interested stakeholders.

DEQ reconvened the TR Regulatory Advisory Panel which met four times, then presented amendments to the Board at their December 2016 meeting and received authorization for public comment on the amendments. A Notice of Public Comment (NOPC) was published in the Virginia Register of Regulations on September 18, 2017 (Volume 34, Issue 2). (For details on the BACH action see <https://townhall.virginia.gov/L/ViewAction.cfm?actionid=3171>.)

The Board at its meeting on August 21, 2018 adopted the bacteria, cadmium and human health criteria amendments, but delayed action on the amendments to the freshwater ammonia criteria (9VAC25-260-155 A-C) due to the passage of House Bill 1475 during the 2018 General Assembly. The legislation directed the Board not to adopt the most recent ammonia criteria recommended by EPA unless the Board included in such adoption a phased implementation program consistent with the federal Clean Water Act with certain funding and timing considerations. DEQ staff developed this phased implementation program, issued a notice soliciting public comment, held two public hearings, and reconvened the RAP to gain input from interested stakeholders. (For notice details see: <http://townhall.virginia.gov/L/ViewNotice.cfm?gnid=867>).

The Board, adopted the amendments to the ammonia criteria at the December 13, 2018, meeting completing action on the TR initiated in 2013.

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	Virginia Department of Environmental Quality
DGIF	Virginia Department of Game and Inland Fisheries
EPA	U.S. Environmental Protection Agency
TR	Triennial Review
RAP	Regulatory Advisory Panel
SWCB	State Water Control Board
VPDES	Virginia Pollutant Discharge Elimination System

Statement of Final Agency Action

Please provide a statement of the final action taken by the agency including: 1) the date the action was taken; 2) the name of the agency taking the action; and 3) the title of the regulation.

The State Water Control Board adopted the amendments to the Water Quality Standards Regulation (9 VAC 25- 260) at their meeting on December 13, 2018.

Mandate and Impetus

Please list all changes to the information reported on the Agency Background Document submitted for the previous stage regarding the mandate for this regulatory change, and any other impetus that specifically prompted its initiation. If there are no changes to previously-reported information, include a specific statement to that effect.

Previously reported mandates regarding the technical basis for this amendment to the regulation which updates the ammonia criteria for freshwater have not changed. However, a Virginia Code mandate enacted by the 2018 General Assembly (HB1475 and SB344) required that the Board include in such adoption a Phased Implementation Program (PIP) consistent with the federal Clean Water Act.

Legal Basis

Please identify (1) the agency or other promulgating entity, and (2) the state and/or federal legal authority for the regulatory change, including the most relevant citations to the Code of Virginia or Acts of Assembly chapter number(s), if applicable. Your citation must include a specific provision, if any,

authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency or promulgating entity's overall regulatory authority.

Federal and state mandates in the Clean Water Act at 303(c), 40 CFR 131 and the Code of Virginia in §62.1-44.15(3a) require that water quality standards be reviewed, and, as appropriate, adopted, modified, or cancelled at least once every three years. These are the most relevant laws and regulations. The promulgating entity is the State Water Control Board.

The Clean Water Act authorizes restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters. The Clean Water Act at 303(c)(1) requires that the states hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and adopting standards.

The Federal regulations at 40 CFR 131 authorize requirements and procedures for developing, reviewing, revising and approving water quality standards by the States as authorized by section 303(c) of the Clean Water Act. 40 CFR 131 specifically requires the states to adopt criteria to protect designated uses.

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, at least once every three years, 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. The Office of the Attorney General has certified that the Board has the statutory authority to promulgate final text of the regulation.

Purpose

Please explain the need for the regulatory change, including a description of: (1) the rationale or justification, (2) the specific reasons the regulatory change is essential to protect the health, safety or welfare of citizens, and (3) the goals of the regulatory change and the problems it 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.

This final regulatory action by the State Water Control Board amends 9VAC25-25-155 to include new nationally recommended aquatic life criteria, issued by EPA in 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.

Amendments also include provisions related to implementation of the criteria in Virginia Pollutant Discharge Elimination System (VPDES) permits. A permittee may request coverage under a Phased Implementation Program and the Board may authorize, as appropriate, an extended schedule of compliance, which exceeds the term of the VPDES permit and may include multiple permit cycles to achieve effluent limits based on the freshwater ammonia water quality criteria.

Issues

Please identify the issues associated with the regulatory change, 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, include a specific statement to that effect.

- 1) The primary advantages to the public are that the updated freshwater ammonia criteria are based on more recent scientific information to protect water quality and aquatic life. The disadvantage is that entities currently discharging to state waters may have to incur the costs of increased treatment to meet new or revised water quality criteria that are more stringent.
- 2) 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.
- 3) 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 ammonia control in their discharge. 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 list all changes to the information reported on the Agency Background Document submitted for the previous stage regarding any requirement of the regulatory change which is more restrictive than applicable federal requirements. If there are no changes to previously-reported information, include a specific statement to that effect.

There are no requirements that exceed applicable federal requirements.

Agencies, Localities, and Other Entities Particularly Affected

Please list all changes to the information reported on the Agency Background Document submitted for the previous stage regarding any other state agencies, localities, or other entities that are particularly affected by the regulatory change. If there are no changes to previously-reported information, include a specific statement to that effect.

The amendments made are for a pollutant with statewide application. Localities across the State are potentially and equally affected.

Other State Agencies Particularly Affected:

No state agencies are known to be particularly affected.

Localities Particularly Affected:

No state localities are known to be particularly affected.

Other Entities Particularly Affected:

No other entities are known to be particularly affected.

Public Comment

Please summarize all comments received during the public comment period following the publication of the previous stage, and provide the agency response. Ensure to include all comments submitted: including those received on Town Hall, in a public hearing, or submitted directly to the agency or board. If no comment was received, enter a specific statement to that effect.

See Page 7.

Detail of Changes Made Since the Previous Stage

Please list all changes that made to the text since the previous stage was published in the Virginia Register of Regulations and the rationale for the changes. Explain the new requirements and what they mean rather than merely quoting the text of the regulation.

**Please put an asterisk next to any substantive changes.*

Current chapter-section number	New chapter-section number, if applicable	New requirement from previous stage	Updated new requirement since previous stage	Change, intent, rationale, and likely impact of updated requirements
9VAC25-260-155 Ammonia surface water quality criteria	N/A	<p>The proposal included adopting EPA's revised (2013) recommended water quality criteria for ammonia in freshwater though without the EPA-recommended requirement that within a 30-day period, the 4-day average concentration of total ammonia (in mg/L) may not exceed 2.5 times the chronic concentration value more than once every three years on the average.</p>	<p>Inclusion of the requirement that within a 30-day period, the 4-day average concentration of total ammonia (in mg/L) may not exceed 2.5 times the chronic concentration value more than once every three years on the average.</p>	<p>*Inclusion of the requirement that the 4-day average not exceed 2.5 times the chronic criterion was in response to EPA comment and provides an additional layer of protection to aquatic life from the chronic effects of exposure to ammonia.</p>
		<p>The proposed amendments also provided the option of utilizing compliance schedules specific to ammonia that can extend longer than 5 years.</p>	<p>Also included is a VPDES permit implementation procedure (Phased Implementation Program) consisting of a tiered approach for implementation and an opportunity for VPDES permitted facilities to apply for and extended schedule of compliance.</p>	<p>*Virginia Code now requires that ammonia criteria amendments cannot be adopted unless the Board includes in such adoption a phased implementation program that addresses the potential adverse impact on permitted dischargers across the State. Amended language addressing potential economic impacts is intended to provide a procedure to ameliorate those impacts.</p>

Detail of All Changes Proposed in this Regulatory Action

*Please list all changes proposed in this action and the rationale for the changes. Explain the new requirements and what they mean rather than merely quoting the text of the regulation. *Please put an asterisk next to any substantive changes.*

Current chapter-section number	New chapter-section number, if applicable	Current requirement	Change, intent, rationale, and likely impact of updated requirements
9VAC25-260-155 Ammonia surface water quality criteria	N/A	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. The regulation currently establishes Acute Ammonia Freshwater Criteria; Chronic Ammonia Freshwater Criteria Early Life Stages of Fish Present; Chronic Ammonia Freshwater Criteria Early Life Stages of Fish Absent; Acute Ammonia Saltwater Criteria; and Chronic Ammonia Saltwater Criteria.	<p>The amended criteria are EPA's current nationally recommended criteria utilizing freshwater mussels, the most sensitive species, in the toxicity data set thus lowering the criteria.</p> <p>The final amendments include a requirement that within a 30-day period, the 4-day average concentration of total ammonia (in mg/L) may not exceed 2.5 times the chronic concentration value more than once every three years on the average.</p> <p>Also included is a VPDES permit implementation procedure (Phased Implementation Program) consisting of a tiered approach for implementation and an opportunity for VPDES permitted facilities to apply for an extended schedule of compliance.</p>

ATTACHMENT 1

**Ammonia Criteria and Phased Implementation Program (PIP)
Summary of Comments Received and Agency Response
Received during Notice of Public Comment Period
August 6 – October 5, 2018**

A. During the **first public review period**, which closed December 8, 2017, the following comments were received on the proposed ammonia criteria amendments:

- Commenter: Chesapeake Bay Foundation; expressed support for the proposed revisions with a 10-year compliance schedule for facilities that cannot meet permit limits; did not support allowing schedules to extend beyond this period.

DEQ's Response: Acknowledge CBF's support for the proposed revisions.

- Commenter: U.S. Environmental Protection Agency; stated that DEQ should ensure the proposal is consistent with recommendations regarding duration and frequency of exceedance, specifying that the 4-day average of ammonia concentration (not to exceed 2.5 times the chronic criterion in a 30-day period) be included in the proposal.

DEQ's Response: DEQ acknowledges the EPA 2013 recommendation for the 4-day average chronic criterion, but did not originally include this criterion in the proposed amendments. At that time, DEQ was relying on EPA's 1999 implementation guidance which provided for the allowance that a 30Q10 design flow when calculating steady state waste load allocations for dischargers should also be as protective as 2.5 times any 4-day average (Federal Register, FRL-6513-6 December 22, 1999-Implementation Guidance). "30Q10" means the lowest flow in the receiving stream, averaged over a period of 30 consecutive days that can be statistically expected to occur once every 10 climatic years. This factor was adopted into the Board's 2001 rulemaking (approved by EPA) for the ammonia criteria as footnote "6" to Section 140.B. EPA's guidance for the 2013 criteria is silent on this matter; therefore, DEQ assumed that the current wording in the Water Quality Standards Regulation was still valid and sufficient. EPA has since pointed out that the provision for use of the 30Q10 is in the implementation section of the 1999 guidance, not in the actual criteria recommendations. The proposed inclusion now of the 4-day average criterion is addressed in the Comment/Response section below, related to the most recent public comment period (Aug. 6 - Oct. 5, 2018).

- Commenters: Amherst Co. Service Authority (S.A.), August Co. S.A., Bath Co. S.A., Town of Culpeper, Frederick Water, City of Fredericksburg, Goochland Co. Dept. of Public Utilities, Halifax Co. S.A., Hampton Roads Sanitation District, Hanover Co., Harrisonburg-Rockingham Regional S.A., Henry Co. Public S.A., Town of Hillsville, Hopewell Water Renewal, Lee Co. Public S.A., Loudoun Water, Louisa Co. Water Authority, City of Norton, Pepper's Ferry Regional Wastewater Treatment Authority, Rapidan S.A., City of Richmond, Town of Tappahannock, Tazewell Co. Public S.A.,

Upper Occoquan S.A., Virginia Coal and Energy Alliance, Inc., Virginia Association of Municipal Wastewater Agencies, Virginia Manufacturers Association, Virginia Rural Water Association, Virginia Water and Waste Authorities Association, Warm Spring Sanitation Commission, Wise Co. Board of Supervisors, Wythe Co. Public S.A.

Commenters expressed concern over the increased costs they predict will be incurred by permitted facilities due to the adoption of the updated ammonia criteria that may result in more stringent discharge permit limits. They requested that DEQ consider a long-term phased implementation plan that works in conjunction with the implementation of other nitrogen-based requirements (e.g., Chesapeake Bay TMDL), with assistance provided through the Water Quality Improvement Fund. Commenters also requested that DEQ make specific allowances for permit limits (e.g., the use of a 50th percentile pH value rather than 90th percentile pH value). Some commenters also request a delay in the adoption of the new criteria to allow for more refined planning.

DEQ's Response: The agency realizes there is potential for economic impacts to treatment facilities. This issue is addressed in the Comment/Response section below, related to the most recent public comment period (Aug. 6 - Oct. 5, 2018).

B. During the **second public review period**, which closed October 5, 2018, the following comments were received on the proposed ammonia criteria amendments. DEQ received 47 sets of comments from local governments, wastewater authorities, industrial dischargers, associations and representative organizations, one environmental group, one citizen, and the EPA (see Attachment 4 for the full list of commenters). Most of the localities, Service Authorities, and Public Utilities operating municipal sewage treatment works provided very similar comments based upon recommendations developed by the Virginia Association of Municipal Wastewater Agencies (VAMWA) and were submitted using virtually the same format.

1. *Shared Comments:*

a. *The risk of financial hardship is extreme, particularly for small municipal wastewater systems, including many serving rural areas of the Commonwealth. Most of the commenters reference costs calculated by an engineering firm retained by VAMWA. Those cost estimates (in 2014 dollars) are \$512 million in capital costs plus recurring annual operation and maintenance costs of \$34 million as their best estimate of this impact on Virginia localities, wastewater authorities and utility ratepayers.*

DEQ's Response: DEQ acknowledges the potential fiscal impact on dischargers not currently controlling ammonia in their discharge and accepted the VAMWA cost estimates as representative. It was for this reason the original criteria amendments were proposed to include provisions for extended compliance schedules (beyond the term of a permit) based on demonstrated need to give time to secure necessary funding, plan, design and construct needed retrofits and cost-effectively address multi-purpose projects. This "strawman" language has now been replaced with the provisions for the Phased Implementation Program enacted by the 2018 General Assembly.

- b. *Agree with the goal of providing appropriate protection for snails and mussels (the most sensitive species used in ammonia toxicity calculations) but believe spending on additional protection for those species should be considered in the context of the broader public interest including important societal needs, rather than mandating it, which forces snail and mussel protection as a priority over discretionary public spending. Costs for compliance with the more stringent criteria may result in unmet legitimate environmental and non-environmental public needs such as schools and other locality infrastructure due to limited financial resources.*

DEQ's Response: *Both the federal Clean Water Act and Virginia's State Water Control Law mandate protection of designated uses, including aquatic life. This mandate is not given in the context of considering all other possible public interests and societal needs, but inclusion of the PIP in the ammonia criteria amendments is intended to lessen the impact on affected dischargers while achieving the requirement to protect aquatic life.*

- c. *Most of the commenters provided information on their wastewater systems. Three of the localities are currently in various stages of progress to upgrade Combined Sewer Overflow (CSO) systems (Cities of Alexandria, Lynchburg, and Richmond) and they state that considerable financial resources have been, and continue to be spent, to ensure those projects are completed.*

DEQ's Response – *DEQ acknowledges the efforts made by permitted facilities to control discharge of pollutants of all types to Virginia's waters.*

- d. *The majority of commenters recommended that DEQ include the Phased Implementation Plan (PIP) in the regulation with the added extension of 6 months for each facility tier. This would change the proposed 6, 18 and 30 months for Tiers 1, 2, and 3 respectively to 12, 24 and 36 months. It is also suggested that the design flow for the first tier of facilities should be changed from 1.0 MGD and greater design capacity (DEQ's proposal) to 5.0 MGD and greater capacity. They state owners of facilities greater than 5.0 MGD would likely be in a better situation to understand and prepare for the application process, whereas owners of facilities below 5.0 MGD (smaller localities or authorities) will require more DEQ outreach, assistance and lead time to prepare preliminary engineering analyses and the information required in those analyses, and in determining the appropriate criteria compliance schedules. Similarly, the second tier should be increased from 0.1 MGD to 0.5 MGD, and the third tier from less than 0.1 MGD to less than 0.5 MGD.*

DEQ's Response – *The ammonia criteria amendments that will be recommended to the State Water Control Board for adoption include the PIP. In response to the comments received, staff has proposed changes to the classes of permittees outlined in Part G.1 and extended the effective dates of the criteria by 6 months for each of the three tiers.*

- e. *Urge DEQ to use all available implementation procedures and practices to minimize the impacts on wastewater facilities, including procedures from other states that have been previously approved by EPA and other recommendations by VAMWA that are not prohibited by federal statute or regulation and reduce layers of conservatism in the permitting process.*

DEQ's Response – *DEQ is evaluating the factors and assumptions used in deriving ammonia permit limits and will make changes that can be reasonably accommodated and scientifically justified in order to provide additional relief to permittees. These changes will not be included in the Water Quality Standards Regulation, but will be addressed in agency permitting guidance with an opportunity for input from interested stakeholders.*

2. *Commenter: Town of Keysville; stated that compliance with more stringent ammonia criteria is too expensive and they cannot afford to do any plant improvements to increase ammonia removal. They understand the intent of the proposed regulation; however, the increased cost to already struggling budgets to small utilities such as theirs is neither fair nor feasible.*

DEQ's Response - *The proposed amendments provide the option of utilizing compliance schedules specific to ammonia that can extend longer than 5 years. Language was developed with input from Regulatory Advisory Panel participants to amend section 9VAC25-260-155 (ammonia criteria) to address permit compliance schedules for ammonia limits to allow for the time necessary to secure financial resources for facility upgrades needed for those facilities to be compliant with newer, more stringent discharge limits. Any additional modification to permitting practices for determination of discharge limits for ammonia would be addressed through permitting guidance. On the issue of potential financial stress caused by implementing the revised ammonia criteria, the 2018 General Assembly revised the eligibility provisions of the Water Quality Improvement Fund to specifically identify "cost effective technologies to reduce loads of...nitrogen-containing ammonia" to the list of project types eligible for grant funding. Further, DEQ's Clean Water Revolving Loan Fund Program makes available low interest loans for plant retrofits, sometimes with zero-interest (and on occasion "principal forgiveness") in cases of severe fiscal stress on the recipient.*

3. *Commenter: VA Manufacturers Association; stated that the factors for demonstrating the need for an extended compliance schedule do not adequately account for industrial dischargers. DEQ should include a specific process for industrial dischargers to assert and receive protection against the public disclosure of confidential business information. The time frame for issuing permits incorporating the new criteria (as water quality-based effluent limits) is too inflexible. Request that DEQ revise 9 VAC 25-260-155.G.3.a, to add the following factor ("v"): "For industrial dischargers, the technological or economic practicability of complying with the ammonia criteria, based on industry or facility-specific information".*

DEQ's Response - *DEQ acknowledges that the language included in State Code and the proposed Regulation applies more directly to municipal facilities. DEQ has modified Parts*

G.3.a.i., G.3.b.ii, and G.3.b.iv to clarify that these provisions are also available to industrial discharges.

The intent of the proposed PIP is that it be applicable to all VPDES permits issued pursuant to 9VAC25-31, Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation. While both major and minor industrial facilities are referenced in the PIP, DEQ agrees that some clarifying revisions (underlined below) should be made to the proposal to better accommodate industrial dischargers.

- *Item 3.a.i. will now read: “The relative priority of ammonia criteria and other water quality and water infrastructure needs of the local community or permittee”. (This change could cover any non-municipal treatment plant, such as industrials, privately-owned treatment works, or commercial facilities).*
- *Item 3.b.iii. will now read: “An assessment of projected affordability and identification of all potential sources of funding for enhanced ammonia treatment. In the case of publicly owned treatment works, include an evaluation of the required sewer use fee versus median household income”.*

Under provisions of the state statute governing Freedom of Information, DEQ cannot give assurance that confidential business information provided by an industrial applicant for the PIP will be protected against public disclosure. While the State Water Control Law (§62.1-44.21. Information to be furnished to Board) and VPDES Permit Regulation (9VAC25-31-80 and -860. Confidentiality of Information) appear to provide some protection for “secret formulae, processes, or methods” claimed as confidential, DEQ is unsure this would apply to the PIP, as “Information required by VPDES application forms provided by the department may not be claimed confidential”. Therefore, it is recommended that this type of information should not be included with the application.

In response to the comments received, to provide more flexibility in the time frame for issuing permits incorporating the new criteria, staff has proposed changes to the classes of permittees outlined in Part G.1 and extended the effective dates of the criteria by 6 months for each of the three tiers. The phased effective date schedule in Part G.1 applies to permits being reissued and does not prompt permit modifications to incorporate the new ammonia water quality criteria. Staff has not added VMA’s proposed paragraph G.3.a.v., as it extends authority beyond that identified in the state code.

4. *Commenter: Appalachian Power Co.; APCo uses ammonia and related chemical compounds in various water treatment and air pollution control capacities. The list of components of an extended compliance schedule demonstration in proposed language 9VAC25-260-155.G.3.b may not be inclusive of all potential components of such a demonstration. Requests that the language in 9VAC25-260-155-G.3.b.ii and iv be modified to provide flexibility to permittees for whom source reduction may be the most favorable strategy and provide time to select the appropriate alternative compliance mechanism.*

DEQ’s Response - *The intent of the proposed phased implementation plan is that it be applicable to all VPDES permits issued pursuant to 9VAC25-31, Virginia Pollutant Discharge*

Elimination System (VPDES) Permit Regulation. Staff has proposed changes to 9VAC25-260-155.G.3.b.ii and iv to recognize source reduction alternatives for industries.

5. *Commenter: U.S. Environmental Protection Agency; Consider using a different term in the compliance schedule context or, at a minimum, clarify: (1) what the term "highest achievable condition (HAC)" means with respect to compliance schedules; and, (2) that its use here does not imply that an applicant for a compliance schedule is also applying for, or obtaining, a water quality standards variance. Work with EPA so they may understand what the state intends with this proposal and to identify options to achieve the state's intended outcome. The compliance schedule language in the PIP is not subject to EPA water quality standards review under Clean Water Act Section 303(c); however, they constitute NPDES program revisions subject to EPA review under Section 402.*

DEQ's Response - Proposed section 9VAC25-260-155.G.3.b(v) states: "An evaluation, prepared by a professional engineer registered in Virginia, of the **highest achievable condition (HAC) regarding nitrification capabilities of the current treatment facility design under the influent loading conditions expected during the term of the VPDES permit and the design loading conditions.**" DEQ believes it is apparent the term "highest achievable condition" refers to wastewater within the facility and subsequent quality of effluent and not the highest achievable condition of instream water quality of the receiving stream.

EPA has been a participant in the Regulatory Advisory Panel during the development of this Phased Implementation Program and throughout the promulgation of ammonia criteria amendments and DEQ will continue to work with, and seek input from EPA as this issue progresses.

DEQ acknowledges EPA's finding that the PIP language is not subject to WQS review under CWA Section 303(c), but will be subject to EPA review as an element of Virginia's VPDES Permit Program under CWA Section 402.

*Regarding EPA's prior comment (dated 11/6/17; submitted during the first public review period) on inclusion of the **4-day average chronic criterion**, DEQ has revised the proposal to add the following text. This appears before each section for derivation of the chronic criteria, covering the three possible combinations for mussels and early life stages present or absent: "In addition, the 4-day average concentration of total ammonia nitrogen (in mg N/L) shall not exceed 2.5 times the chronic criterion within a 30-day period, more than once every three years on the average."*

While inclusion of the 4-day average chronic criterion is a change since the amendments were proposed for public comment, research done by DEQ staff indicate that it is not a significant change in terms of impact on permitted dischargers or potential for additional assessments of state waters as "impaired" due to failure to meet the criterion. Regarding the potential impact on permitted dischargers, in accordance with EPA's guidance, if the ammonia chronic criteria are implemented using the 30Q10 stream flows, then no further conditions are necessary. Implementation of the 30-day chronic criteria at 30Q10 is protective of the 4-day average

chronic criteria; therefore, no additional impact on VPDES permittees is anticipated due to inclusion of the 4-day average criteria in the proposal.

The results from a statistical analysis of ambient monitoring data strongly suggests that in the majority of free-flowing streams in the Commonwealth, attainment of the 4-day average ammonia criterion can be presumed when the 30-day average criterion is met. Site-specific variability of ammonia was determined from datasets spanning multiple years generated in 20 streams across the state. Using the variability determined for each stream, 200 simulated annual datasets were created. These datasets were then used to estimate the likelihood that a given waterbody would exceed the 4-day average criterion while meeting the 30-day average criterion. This analysis found that the variability of ammonia in 75% of the examined waterbodies is so low that there is a negligible risk of the 4-day mean criterion being exceeded when the 30-day mean criterion is met. The statewide percentage is likely much higher than 75%, since the streams that were selected for this analysis had been targeted for intensive monitoring because upstream sources elevate their risk of experiencing degraded water quality.

- 6. Commenter: Chesapeake Bay Foundation; Recommend language be included to define a specific number of permit cycles and suggest that the limit be two 5-year permit cycles or an applicable TMDL deadline for the tributary to which the facility discharges, whichever is earliest. Expand grant funding to include low interest financing programs such as Virginia's Clean Water Revolving Loan Program. Explore opportunities to incentivize additional total nitrogen reductions, which may coincide with upgrades needed for achieving ammonia criteria but are not required.*

DEQ's Response - *The controlling requirement for the schedule under the PIP will be that "compliance shall be achieved as soon as possible in accordance with 9 VAC 25-31-250.A.1".*

Regarding grant funding, DEQ cannot unilaterally expand availability because of dependence on General Assembly appropriations to the Water Quality Improvement Fund (WQIF) and any restrictions put on the use of those funds in budget language. However, the 2018 General Assembly revised the eligibility provisions of the WQIF to specifically identify "cost effective technologies to reduce loads of...nitrogen-containing ammonia" to the list of project types eligible for grant funding. Further, DEQ's Clean Water Revolving Loan Fund Program does make available low interest loans for plant retrofits, sometimes with zero-interest (and on occasion "principal forgiveness") in cases of severe fiscal stress on the recipient.

DEQ acknowledges the recommendation to explore additional incentives for nitrogen reductions to coincide with upgrades needed to achieve ammonia criteria. As stated above, any financial incentives are dependent on General Assembly appropriations to the WQIF or other funds and any restrictions put on the use of those funds in budget language.

Commenters (localities/service authorities):

Alexandria Renew Enterprises
Amelia County
Amherst County Service Authority
Augusta County Service Authority
Bath County Service Authority
Chesterfield County Department of Public Utilities
Town of Christiansburg
Town of Culpeper
City of Danville Department of Public Utilities
Fauquier County Water and Sanitation Authority
Frederick Water
Halifax County Service Authority
Town of Hamilton
Hampton Roads Sanitation District
Hanover County
Harrisonburg-Rockingham Regional Sewer Authority
Henrico County Department of Public Utilities
Hopewell Water Renewal
Town of Keysville
Town of Kilmarnock
Town of Lawrenceville
Lee County Public Service Authority
Town of Leesburg
Loudoun Water
Louisa County Water Authority
Town of Luray
City of Lynchburg – Water Resources
Town of Marion
Maury Service Authority
Town of Middleton
Pepper’s Ferry Regional Wastewater Treatment Authority
Powhatan County
Rapidan Service Authority
City of Richmond
Shenandoah County
Stafford County
Tazewell County Public Service Authority
Washington County
City of Winchester

Commenters – (representative organizations):

Virginia Association of Municipal Wastewater Agencies (VAMWA)
Virginia Manufacturers Association (VMA)
Virginia Rural Water/Virginia Water & Wastewater Authorities Association

Commenters – (environmental organizations/federal agencies):

Chesapeake Bay Foundation (CBF)/James River Association (JRA)
U.S. Environmental Protection Agency (EPA)

Commenters (business/citizen):

Appalachian Power Company (APCo)
Bill Randall
White Tail Resort