



COMMONWEALTH of VIRGINIA

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MEMORANDUM

TO: State Water Control Board Members

FROM: Jutta Schneider, Water Planning Division Director 

SUBJECT: **Adoption of Amendments to the Water Quality Standards Regulation (9 VAC 25-260) – Triennial Review**

DATE: December 18, 2015

EXECUTIVE SUMMARY

Staff intends to ask the Board to adopt proposed Triennial Review amendments to the Virginia Water Quality Standards Regulation. Based upon public comment, staff has concluded the following key actions are appropriate:

- retain the existing freshwater aquatic life ammonia criteria; propose a separate rulemaking to allow time for additional evaluation of implementation issues and impacts to regulated dischargers, so that guidance can be issued at the same time any revised criteria are approved.
- retain the existing human health criteria for eight compounds proposed for updating; address the new EPA recommendations for 94 human health criteria (including these original 8) and consider appropriate amendments in a future rulemaking.
- retain the existing freshwater aquatic life cadmium criteria; consider appropriate amendments in a future rulemaking to account for a pending EPA update of its national ambient water quality criteria for cadmium.
- retain four waters proposed for Class VII (swamp waters) designation as Class III (Coastal and Piedmont non-tidal waters), pending additional evaluation of their natural conditions.
- adopt all other amendments as proposed, and;
- reconvene the Triennial Review regulatory advisory panel (RAP; see **Attachment 1** for a listing of the RAP members) to consider updates to freshwater aquatic life criteria for ammonia, along with consideration, as appropriate, for amendments to the 94 human health criteria noted above, and new EPA recommendations for recreation waters criteria (bacteria) and aquatic life (potentially for cadmium and selenium).

BACKGROUND

The water quality standards are the cornerstone for water quality programs at the Virginia Department of Environmental Quality. For example, these standards are used to set pollution limits in discharge permits and evaluate the health of waters statewide.

Water quality standards define the goals for healthy waters by designating their uses, setting water quality conditions that will protect those uses and establishing anti-degradation provisions to safeguard high quality waters. They protect water quality so rivers, lakes and other waterbodies can be sources of water supplies; support recreational, agricultural, and industrial activities among others; promote the growth of fish and shellfish that are suitable for eating; and protect aquatic life.

The Clean Water Act and State Water Control Law require that the Board conduct a review every three years of the state surface water quality standards regulation for the purposes of revising and updating the standards to reflect changes in law, technology and scientific information. The goal is 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.

PURPOSE

Staff intends to ask the Board to adopt Triennial Review amendments to the Water Quality Standards Regulation (9VAC 25-260).

At their March 28, 2014 quarterly meeting, the State Water Control Board authorized staff to proceed to public hearing with proposed Triennial Review amendments to the Water Quality Standards, including the following substantive issues:

- Criteria updates to the Table of Parameters (Toxics) for both human health and aquatic life protection.
- A recommendation to delete the current Manganese criterion.
- Revised ammonia surface water criteria.
- Consideration of revised bacteria criteria for recreational waters, with a recommendation to not make any amendments at this time.
- Revisions to Special Standards 'm' (Chickahominy watershed above Walkers Dam); 'ee' and 'ff' (maximum temperature for winter-only stocked trout waters).
- Other trout water updates (clarification of segment delineations).
- Reclassifying several waterbodies from Class III (non-tidal waters) to Class VII (swampwaters).
- A recommendation to delete the Public Water Supply designation for a portion of the lower James River basin.

Other minor changes included adding a definition of 'wetlands', application of pH criteria in stratified reservoirs, clarify application of Chesapeake Bay dissolved oxygen criteria, adding 2

impoundments to the Lake Nutrient criteria section, and typographical corrections. Finally, minor corrections were suggested in section 140, Table of Parameters, regarding the units and Chemical Abstract Service number for some parameters.

RESPONSE TO PUBLIC COMMENT

During the public comment period (June 29 – August 28, 2015), two public hearings were held in Richmond and Roanoke. Board members presided over the hearings: Mr. Joseph Nash in Richmond and Ms. Lou Ann Wallace in Roanoke. In addition to the proposed amendments, the public was also provided with a copy of the Department of Planning and Budget’s Economic Impact Statement for the proposal (see **Attachment 2**).

Written comments on the Triennial Review changes were received from 26 organizations, localities and agencies. The issue that received the most comment was the proposed update to the freshwater ammonia criteria for the protection of aquatic life. The U.S. Environmental Protection Agency (EPA) released updated freshwater ammonia criteria August 2013 that incorporates toxicity data for freshwater mussels and snails which commonly occur in virtually all fresh waters of Virginia. The updated criteria tend to be considerably more stringent than the current criteria. Of the 26 organizations, localities and agencies commenting on the ammonia criteria, 20 opposed the criteria change.

Attachment 3 is the Final Regulation Agency Background Document which includes a table of the changes made since the proposal stage, a summary and response to public comment, and a table listing all the changes to the regulation being proposed. **Attachment 4** is a copy of 9VAC 25-260, Virginia Water Quality Standards, showing the proposed wording changes (only sections of the regulation with changes at the proposed or final stage are presented).

The notable changes made in response to public comment and other key issues are summarized below in the order of the sections in the regulation:

§ 9VAC25-260-50, Numerical Criteria for Dissolved Oxygen pH and Maximum Temperature

EPA commented on the application of pH criteria only to the epilimnion when a lake is stratified. VA must document how the aquatic life use below the epilimnion is protected by the WQS, as revised, particularly as the lake turns over.

Agency Response: VA DEQ intends to include documentation and rationale with the approval submission package.

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

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

Agency Response: The support is noted. However, subsequent to the public comment period, in a November 2015 notification from EPA, DEQ staff became aware of a pending update to their national recommended ambient water quality criteria for cadmium in order to reflect the latest scientific information. To avoid confusion and the potential for adoption of freshwater aquatic life criteria that are more restrictive than the pending federal recommendations without

justification, staff intends to recommend that the State Water Control Board not adopt the proposed cadmium criteria amendments. Updates to the cadmium criteria will be addressed through a future rulemaking.

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

COPPER BIOTIC LIGAND MODEL (BLM):

1. EPA is pleased to see the proposal for adding the copper Biotic Ligand Model (BLM) as optional, alternate copper criteria for freshwater; however, it should be clarified what the State considers sufficient data for application of the model. They also recommend that Virginia consider applying the BLM for derivation of site specific criteria and not just on a permit specific basis.

Agency Response: *The Department does not routinely analyze samples for all parameters necessary to run the BLM though this situation does not negate the possibility of a special study if deemed necessary.*

2. HRSD, Richmond, VAMWA, and VMA support adoption of the copper BLM.

Agency Response: *The support is noted.*

MANGANESE:

1. Dominion Power supports the proposed deletion of the manganese criterion as it is inappropriate to apply a guideline for finished drinking water to untreated, natural surface waters.

Agency Response: *The support is noted.*

2. EPA commented that approval submission to EPA must include a rationale that explains how designated uses will be protected without this criterion. They recommend that Virginia consider EPA's lifetime drinking water health advisory (EPA-822-R-04-003) of 0.3 mg/L when setting criteria for manganese to protect the relevant designated uses.

Agency Response: *VA DEQ intends to include rationale with the approval submission package. It should be noted that the referenced document states: "A Drinking Water Health Advisory is not an enforceable standard for action. This Health Advisory describes non-regulatory concentrations of the contaminant in water that are expected to be without adverse effects on both health and aesthetics. Health Advisories serve as technical guidance to assist Federal, State, and local officials responsible for protecting public health when emergency spills or contamination situations occur. They are not to be construed as legally enforceable Federal standards. They are subject to change as new information becomes available. This draft supersedes any previous draft advisories for this chemical."*

The regulatory determination in the EPA document (EPA-822-R-03-003) which forms a portion of the basis for the Drinking Water Health Advisory for Manganese states, "Do not regulate."

HUMAN HEALTH CRITERIA:

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

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

SELENIUM:

Virginia Coal and Energy Alliance (VCEA) recommended that DEQ carefully review EPA's calculations and assumptions, and then work with interested stakeholders — like VCEA — to gather Virginia-specific data and information that will be useful in translating EPA's eventual national selenium criteria recommendations for actual conditions in the Commonwealth.

Agency Response: The agency will give consideration to the soon-to-be-released nationally recommended selenium criteria as well as the commenter's suggestions in a future rulemaking.

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

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

All opposing commenters requested the proposed ammonia criteria update be removed from the Triennial Review rulemaking and addressed in a separate rulemaking once permitting and compliance implementation concerns have been fully evaluated. An economic impact analysis was submitted by VAMWA and is provided in **Attachment 5**.

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

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

Agency Response: The support is noted.

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

Agency Response: Determination of the absence of freshwater mussels requires special field survey methods. This determination must be made after an adequate survey of the waterbody is conducted by an individual certified by the Virginia Department of Game and Inland Fisheries

(DGIF) for freshwater mussel identification and surveys. Determination of absence of freshwater mussels will be done in consultation with the DGIF. Also, please note the response provided above.

9VAC25-260-185, Criteria to protect designated uses from the impacts of nutrients and suspended sediment in the Chesapeake Bay and its tidal tributaries

CBF supports the clarification regarding application of Bay dissolved oxygen criteria.

Agency Response: *The support is noted.*

9VAC25-260-187, Nutrient Criteria for Lakes & Reservoirs

CBF supports the addition of 2 impoundments for the application of nutrient criteria.

Agency Response: *The support is noted.*

EPA states submission of the adopted amendments for approval must include documentation showing that these lakes have been appropriately designated for the purpose of the application of the nutrient criteria.

Agency Response: *Rationale and documentation will be provided.*

§ 9VAC25-260-310.m, ee, and ff. Special standards

EPA understands that the intent of special standard ‘m’ is to protect the Chickahominy River from excessive nutrient inputs and to protect Chickahominy Lake from eutrophication. As this provision does not specify the use or the condition of the water, it does not appear to be a WQS.

Agency Response: *The agency agrees with the comment.*

CBF stated their support of the proposed amendment to special standard ‘m’.

Agency Response: *The support is noted.*

EPA stated that Virginia’s submission for site specific maximum temperature criteria (special standard ‘ee’ and ‘ff’) must include documentation of that rationale.

Agency Response: *Rationale and documentation will be provided.*

9VAC25-260-390 through 540. River basin tables

New swamp (Class VII) additions

EPA stated that reports supporting the reclassification must have information necessary to justify Class VII classification.

Agency Response: *VA DEQ intends to include documentation and rationale with the approval submission package.*

9VAC25-260-410. 1o

James River Basin (Lower)

Sustainability Park, LLC stated that they have invested several million dollars during development of the site and want to maintain assets associated with the property. They state that if the Potable Water Supply (PWS) designation is deleted from the section of the James River upon which the facility is located, it will impair or limit their long term strategy for development of this industrial site.

Agency Response: DEQ staff recommends removal of the PWS designation. The PWS designation in this portion of the James River has no relevance to any water withdrawal permit that might be applied for; water withdrawal applications are judged on their own merit and applicable regulations. A PWS designation is not a pre-requisite for a withdrawal permit; should the facility establish an active permitted drinking water intake, the agency may be petitioned to reestablish the PWS designation.

ATTORNEY GENERAL CERTIFICATION

Since changes were made to the proposed text in response to public comment, these amendments are being forwarded to the Office of the Attorney General for agency statutory authority. The amendments will be proposed "contingent upon Attorney General Office statutory authority" if not received by the January Board meeting.

STAFF RECOMMENDATIONS

Staff recommends the Board:

1. Not adopt proposed amendments to the following eight human health criteria in 9VAC25-260-140: Nitrobenzene, Cyanide, Carbon Tetrachloride, Hexachloroethane, Methylene Chloride, Pentachlorophenol, Tetrachloroethylene, Trichloroethylene;
2. Not adopt proposed amendments to the freshwater aquatic life criteria in 9VAC25-260-140 for cadmium.
3. Not adopt proposed amendments to the freshwater ammonia criteria at 9VAC 25-260-155;
4. Not adopt proposed amendments that would change the following waters and their tributaries from Class III to Class VII: Lodge Creek, Thompson Branch, Mason Mill Swamp, Sullens and Mehixen Creeks;
5. Adopt all other amendments to the Water Quality Standards at 9 VAC 25-260 as presented in Attachment 4.

PRESENTER CONTACT INFORMATION:

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ATTACHMENTS

Attachment 1 is a listing of the Ad Hoc Advisory Committee Members, Nov. 2013 – Jan. 2014.

Attachment 2 is the Department of Planning and Budget’s Economic Impact Statement for the proposal.

Attachment 3 is the Final Regulation Agency Background Document, November, 2015, which includes a table of the changes made since the proposal stage, a summary and response to public comment, and a table listing all the changes to the regulation being proposed.

Attachment 4 is 9 VAC 25-260 Virginia Water Quality Standards, Triennial Review Proposed Amendments (only sections of the regulation with changes at the proposed or final stage are included.), November, 2015.

Attachment 5 is an economic impact analysis provided by VAMWA in relation to EPA’s updated ammonia water quality criteria.