COMMONWEALTH of VIRGINIA

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REGULATORY ADVISORY PANEL MEETING SUMMARY
Water Quality Standards Regulation (9 VAC 25-260)
Bacteria, Ammonia, Cadmium, Human Health Criteria Amendments
July 20, 2016; 10:00 – 12:00DEQ – Piedmont Regional Office

Welcome and Introductions

Advisory Panel Members and Alternates Present:

Chesapeake Bay Foundation: *Joe Wood, Rebecca LePrell*
Dominion Power: *Oula Shehab-Dandan*
Friends Of the Rivers of Virginia (FORVA): *Patti Jackson*
James River Association: *Jamie Brunkow*
City of Richmond: *Pat Bradley, Dept. Public Utilities*
VA Association of Municipal Wastewater Agencies (VAMWA): *Jamie Heisig-Mitchell (Dick Sedgley/AquaLaw; observer)*
VA Coal & Energy Alliance: *John P. Jones, Alpha Natural Resources Services (by phone)*
VA Manufacturer's Association/VA Mining Issues Group: *Patrick Fanning*
US Fish & Wildlife Service: *Serena Ciparis (proxy for Susan Lingenfelser/USFWS)*
VA Dept. Conservation & Recreation: *Rene Hypes*
VA Dept. Game & Inland Fisheries: *Ernie Aschenbach*
VA Dept. Of Health: *Margaret Smigo, Dwight Flammia*

DEQ Staff Present:
John Kennedy (Facilitator), Alex Barron, David Whitehurst, Allan Brockenbrough, Matt Richardson, Craig Lott, Houbao Li

Others: *Edward Cronin & Larissa Cubbage - Greeley-Hanson, Jeff Day – Bay Journal, Irene Frentz – Pocahontas State Park (DCR), Kristen Burton – CBF, Troy Tignor – Spotsylvania Co,*

John Kennedy, Office of Ecology director, began the meeting with introductions of Regulatory Advisory Panel (RAP) members and meeting attendees.

Mr. Kennedy then informed the RAP of EPA's recent release of final nationally recommended criteria for selenium (Se). He explained toxicity to aquatic life (fish) is based primarily on consuming contaminated food rather than exposure to Se dissolved in water. The criterion is expressed as 4 elements: fish egg/ovary concentration, fish whole body concentration, waterbody concentration, and waterbody intermittent exposure concentration. The fish tissue elements take precedence over water elements of the criterion. Mr. Kennedy let the panel know that the budget for DEQ's fish tissue and analysis program was markedly reduced a number of years ago and has yet to be restored to former levels of funding; this has bearing on how the agency would implement the new Se criteria due to limited resources for fish tissue collection.

Mr. Kennedy mentioned due to the recent release, there has been insufficient time to discuss the issue with the RAP. DEQ staff is also awaiting EPA's implementation guidance for the recommended Se criteria. Due to those 2 factors it is DEQ staff preference to address the new recommended Se criterion in the next Triennial Review. The RAP was then told by the EPA panel representative that implementation guidance was expected to be issued near the end of this year. It was asked if there was any way to consider inclusion of the updated Se criterion in this rulemaking. DEQ staff indicated they would check with policy personnel regarding the agency's ability to 'coat tail' the update with the rest of the issues, but with a schedule to present the final proposed amendments to the SWCB at their December 2016 meeting with a request to go to Public Comment, this seems unlikely.

Recreational Bacteria Criteria

Mr. Kennedy presented a summary of issues, opinions, and options discussed at previous RAP meetings which are presented in the table below.

Issue	Opinions	Options
Assumed illness rate (36 or 32/1,000)	• Consider both illness rates; EPA criteria documentation states both are protective and acceptable	• Recommend criteria based on 36/1,000 illness rate; consistent with current policy and existing TMDLs • Recommend more conservative lower rate
BEACH Action Value (notification threshold for grant-funded States)	• Include in Regulation • EPA recommends not including in Standards	• If not in Regulation, provide reference to VDH authority to establish BAV for notifications
Geographic application	• EPA recommendations applicable to "Coastal Recreation Waters" • All State surface waters designated for primary contact recreation	• Define "Coastal Rec. Waters" and limit amendments to them • Provide same level of protection to all State waters

He stated that DEQ staff are considering criteria based on the 36/1,000 illness rate because the geometric mean (GM) value is the same as the GM for current criteria which forms the basis for bacteria impairment Total Maximum Daily Loads (TMDL) models. Retaining the same GM value would maintain continuity with existing bacteria TMDLs. Mr. Kennedy also stated it is staff preference to apply the updated criteria statewide. This would provide same level of

protection to all State waters and eliminate the confusion that may arise if only applied to 'coastal recreation waters', which are currently undefined.

Freshwater Ammonia Criteria

Mr. Kennedy outlined the issues, opinions, and options presented in past RAP discussions regarding updated ammonia criteria. They are summarized in the table below.

Issue	Opinions	Options
Capital and operating costs for compliance	• DEQ cost info provided to Dept. Planning & Budget and reflected in Triennial Review Economic Impact Analysis report • VAMWA engineer's report	• VAMWA's report has representative order-of-magnitude estimates • DEQ analysis of # and type of affected dischargers • State can't lobby for money
Compliance schedule	• Limit to permit term • Allow for schedule beyond permit term, in accord with Federal requirements • "As soon as possible" • "As soon as practicable"	• Keep 5 year limit • VAMWA suggested draft regulatory amendments • DEQ Draft "Strawman" revisions to WQ Stds Regulation section for ammonia

DEQ staff presented to the RAP 'strawman' language for a possible amendment to the water quality standards regulation. The intent of the amendment would specify that an ammonia limit compliance schedule does not need to be limited to the permit term as is currently the case but could conform to Federal regulations which state "as soon as possible". The amendment would be specific to ammonia criteria implementation and would define several factors to consider on a case-by-case basis when determining a schedule of compliance. The 'strawman' language also specifies interim milestones and reporting requirements.

A panel member asked if it were possible to have an ultimate and definitive time limit for compliance and suggested two permit reissuances as the limit. Mr. Kennedy stated that in the case of meeting permit limits for ammonia, it is staff preference to match Federal requirements regarding compliance schedules. Another panel member asked if it were possible to expound on and provide more detail about the "other relevant factors" to be considered when setting ammonia compliance schedules (in reference to section F.2(iv) of the strawman language). DEQ staff responded that the intent of the regulatory language is to provide for the allowance of a compliance schedule that meets the primary criterion of "as soon as possible", with the details of "other factors" to consider in setting the duration to be covered in agency guidance.

Cadmium (Cd) Criteria

Cd criteria were released in time for proposal development; they are included in this rulemaking. The updated freshwater criteria incorporates more recent toxicity data for the protection of rainbow trout and the possibility exists of applying criteria that has been recalculated without the trout data to non-trout waters. The recalculation only affects the freshwater acute value raising it from 1.8 ug/L to 2.7 ug/L. It was asked if DEQ had considered inclusion in the regulation of the 'trout absent' recalculated criterion for non-trout waters and, possibly, applying it to waters that

are only stocked with adult trout as 'put-and-take' fisheries. DEQ staff responded that the toxicity data doesn't suggest that age is a factor of toxicity to the organism. There appears to be little difference in toxicity between fry, juvenile, and adult fish. The USFWS panel member stated that mottled sculpins had tested as very sensitive to Cd and the criterion should be kept as is – the trout toxicity data should act as a surrogate for sensitive species. The DCR panel member also supports statewide application of the recommended Cd criteria 'as is'.

Criteria for the Protection of Human Health

Mr. Kennedy then presented the issues, opinions, and options to be considered as discussed during previous RAP meetings. They are summarized in the table below.

Issue	Opinions	Options
20% "Relative Source Contribution" is arbitrary	• Further consider the matter • Accept that RSC is established EPA policy	• Either don't apply RSC or use 80% only when data supports it • Propose EPA's criteria; have gone through peer review, public comment, and no additional data will be developed by DEQ
Benzene criteria shown as a range	• Can't adopt a range as a WQ Standard • Use drinking water MCL (5 ug/L) as a guide	• Exclude Benzene from proposal until EPA provides specific criteria • Propose stringent criteria on basis of MCL

Alex Barron informed the RAP that EPA updated all human health criteria in June 2015, due to updates to the following elements used to calculate the criteria:

- fish consumption rate
- assumed body weight
- drinking water intake
- health toxicity values
- bioaccumulation factors, and
- relative source contributions (RSC)

The RAP was informed that DEQ intends to continue utilizing the same cancer risk factor (1×10^{-5}) for carcinogenic pollutants but accepts EPA's basis for recommended human health criteria with revised fish consumption and water intake assumptions.

The RAP was informed that the updated criteria for benzene resulted in a range of values due to inherent uncertainties in the human health studies used to generate the criteria.

- Potable Water Supply (PWS) = 5.8 to 21 µg/L
- Non-PWS = 160 to 580 µg/L

Dwight Flammia with the Virginia Department of Health suggested a precautionary approach and use the lower and presumably more protective criteria concentrations. He asked that DEQ check to see what the Maximum Contaminant Level (MCL) for benzene is in drinking water (5 µg/L). Stringent criteria, at the lower end of the range for both "PWS" and "All Other Waters" values, protects in cases where water treatment typically doesn't remove volatile organics. Review of water quality monitoring data since 1998 shows few observations of Benzene above detection levels, usually in connection with a pollution incident. VPDES permit effluent monitoring data show very few discharges contain benzene and only in concentrations below 5

ug/L. DEQ staff were asked if there are any general permits with benzene limits. Staff responded that would be investigated. (A query of the permits data base resulted in 258 facilities with benzene permit limits. Discharge monitoring data from these facilities for the past 16 years resulted in 5,080 data points. Of these, only 2% met or exceeded 5.0 ug/L.

Subsequent to the 7/20/16 meeting, in response to a RAP member's question DEQ staff reviewed the General Permit database to see if any facilities were subject to Benzene limits or monitoring requirements. Under the *Petroleum Contaminated Sites and Hydrostatic Tests GP* there are several permittees with discharge limits, but similar to the individual permit results there were very few exceedances of the Benzene criterion under consideration. It should be noted that the discharge data are effluent concentrations and there would almost certainly be some receiving water dilution available in most cases. The limits appear generally to be either 12 or 50 ug/L; likely to be technology based because they have no relation to and are lower than the current Benzene criteria of 22 ug/l in a PWS and 510 ug/L in non-PWS waters. If we assume that most of these are not discharging into a public water supply (with a proposed criterion of 5.8 ug/L), then the proposed criterion for non-PWS would be 160 ug/L. Only 4 samples from four different permits yielded effluent concentrations greater than or equal to 160 ug/L (160, 308, 440, 1,260). These permits have between 16 and 61 total benzene concentrations reported and except for the 4 samples at or above 160 ug/L, all others were well below the proposed criterion of 160 ug/L for non-PWS. These appear to be anomalies and are probably associated with a spill or some unusual circumstances.

Therefore, out of 5,082 samples, only 4 (0.08%) were above the proposed criterion of 160 ug/L for non-PWS waters and only 107 (2%) were above the proposed criterion of 5.8 ug/L for PWS (without accounting for any dilution). It is staff's belief that this is evidence that Benzene is not a widespread issue and any elevated levels of benzene discharges are more likely to be a sporadic event, and is uncharacteristic of normal discharge patterns.

Mr. Kennedy then outlined expected next steps for the rulemaking which include:

- Staff to consider all RAP input and develop proposed amendments for agency management
- Target Dec. 2016 SWCB meeting to request approval to go to Public Comment stage; if approved, followed by:
  - Executive Review (no time limit)
  - Notification in Virginia Register
  - 60-day public comment period
  - Public Hearing(s) scheduled
- Review/respond to comment and draft a final proposal for SWCB Fall 2017 meeting

Staff agreed to distribute a summary of the meeting to the group. The RAP was also informed that all presentations, summaries, and pertinent ancillary information would be made available on the DEQ Water Quality Standards web page:
http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/WaterQualityStandards/RulemakingInfo.aspx

Handouts distributed at the June meeting:

Agenda
Copies of staff presentation slides
Selenium Fact Sheet (EPA)
'Strawman' permit implementation amendment language
Summation of Issues Addressed During Previous RAP Meetings