



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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REGULATORY ADVISORY PANEL MEETING SUMMARY **Bacteria, Ammonia, Cadmium, Human Health Criteria** **June 13, 2016 10:00 – 12:00**

Welcome and Introductions

Advisory Panel Members and Alternates Present:

VA Coal & Energy Alliance: John P. Jones, Alpha Natural Resources Services

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

US Fish & Wildlife Service: Susan Lingenfelter, USFWS

VA Association of Municipal Wastewater Agencies (VAMWA): Jamie Heisig-Mitchell
(Dick Sedgley/AquaLaw; observer)

VA Manufacturer's Association/VA Mining Issues Group: Brooks Smith

VA Dept. Conservation & Recreation: Rene Hypes

VA Dept. Of Health: Margaret Smigo, Caroline Holsinger, Dwight Flammia, Laurie Forlano

DEQ Staff Present:

John Kennedy (Facilitator), Alex Barron, David Whitehurst, Matt Richardson, Craig Lott, Houbao Li

Others: Edward Cronin, Greeley-Hanson

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

Recreational Bacteria Criteria

David Whitehurst, Environmental Specialist in DEQ's Water Quality Standards unit, summarized the bacteria criteria recommendations EPA published in 2012 and explained to the RAP that the BEACH Act requires states with coastal recreation waters to adopt new bacteria

criteria within 36 months of release by EPA (October 2012). The criteria can be those recommended by EPA, or alternatives with justification supporting that they are scientifically defensible and protective of the primary contact recreation use. The 2012 criteria offers 2 options for intended levels of acceptable risk; 36 theoretical illnesses per 1,000 exposed swimmers or the slightly more conservative 32 theoretical illnesses per 1,000 exposed. Both are intended to be protective of primary contact recreation. Current VA standards use a 36/1,000 illness rate. Each illness rate has a geometric mean and a Statistical Threshold Value (STV). The geometric mean is a never-to-be-exceeded criterion, and 10% or less exceedance of the STV, both based on all monitoring data collected during a period of up to 90 days.

The geometric mean value for the 36/1,000 illness rate remains the same as current VA criteria but the EPA criteria document (and subsequent guidance) recommends a mean be calculated using any and all samples within a 90 day period. Current VA criteria require a minimum of 4 weekly samples in a calendar month to generate a geometric mean. If there isn't enough data to generate a geometric mean, the single sample maximum is utilized for assessment purposes and 10% or less exceedance is assessed as meeting the recreational use. Mr. Whitehurst told the RAP that DEQ has received written communication from EPA that they now consider a 30 – 90 day data window to be acceptable from which to generate a geometric mean.

The RAP was told that DEQ staff preference would be to adopt the 2012 criteria that has the same illness rate basis and geometric mean as current criteria so as to maintain continuity with existing bacteria Total Maximum Daily Loads (TMDL). TMDL endpoints are calculated using the geometric mean.

Mr. Whitehurst went on to explain that EPA expects that states and tribes receiving BEACH grants for bacteria monitoring under Clean Water Act section 406 will select a beach notification threshold (Beach Action Value or BAV) based on the 75th percentile value that corresponds to the indicator and illness rate in their adopted Water Quality Standards; however, they do have the option to submit a written justification to use a different value. The alternative value should be selected from the same statistical distribution as the illness rate and corresponding values adopted into state water quality standards, and the justification should explain why this value is preferable to the EPA-recommended 75th percentile value. The BAV is not intended to be a water quality criteria with the expectation of adoption into a State's water quality standards regulation.

One RAP member suggested that maybe the BAV should be in the water quality standards regulation. It was explained that to do so would likely be confusing to the general public and possibly be a source of conflict regarding assessments and TMDLs. Another option would be to include language in the water quality standards regulation referring the reader to the VA Dept. of Health (VDH) regarding use of a BAV for swimming advisories.

Another issue discussed was where to apply the criteria. DEQ staff presented 2 options:

- Apply only to "coastal recreation waters" and maintain current criteria for all others;
- Or to all State waters

Applying the criteria only to "coastal recreation waters" would necessitate defining them in the Water Quality Standards Regulation. It was also pointed out that the public could perceive that

course of action as a relaxing of criteria for designated swimming beaches because the STV is a higher value than the single sample maximum that would be applied to all other waters. All waters in VA are designated as primary contact waters and it was suggested that all waters should receive the same level of protection.

Criteria for the Protection of Human Health

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 update also includes 8 compounds for which EPA had not previously recommended criteria and are not listed in Virginia's Water Quality Standards.

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.

- PWS = 5.8 to 21 µg/L
- Non-PWS = 160 to 580 µg/L

There about 24 active permits with permit limits for benzene. These range from small gas stations to large industrial permits. Recent monitoring data from these indicate all concentrations of benzene in discharged effluent to be less than quantitation limits of 1 to 5 parts per billion (ppb). The single exception is one that measured 3.9 ppb. There are also about 50 general permits for petroleum contaminated sites with benzene limits. 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 in drinking water which he thought was about 5 µg/L. (DEQ staff has checked and the MCL for benzene is 5 µg/L.)

One panel member mentioned that use of the RSC in criteria calculation was considered somewhat controversial and that VA has not included its use in past and current human health criteria. DEQ staff was asked if that was still the case. Mr. Barron responded that use of the RSC had gone through peer review, public comment, and is now official EPA policy. Further, it is doubtful EPA would provide flexibility towards States should they opt not to include it in the derivation of human health criteria.

Panel members agreed that an additional meeting would be necessary to provide additional discussion of the freshwater ammonia criteria update and a general wrap-up of the issues.

Staff agreed to distribute a summary of the meeting to the group prior to the next meeting and provide tentative proposed language for some portion of the issues. 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 slides from staff presentations

Bacteria – Background and Discussion Points for RAP (VDH)

BEACH Act language