



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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AD HOC ADVISORY COMMITTEE MEETING SUMMARY

Triennial Review WQS

May 9, 2007

Welcome and Introductions

Advisory Committee Members and Alternates Present:

Chesapeake Bay Foundation: Mike Gerel

City of Richmond: Robert Steidel

Dominion Power: Judson White

U.S. Fish and Wildlife Service: Cindy Kane

VA Association of Municipal Wastewater Agencies (VAMWA): Jim Pletl

Virginia Coal Association: John Heard

*VA Department of Health (VDH): Michele Monti (Epidemiology), Khizar Wasti (Toxicology),
Bob Croonenberghs (Shellfish Sanitation); Steve Pellei (Drinking Water)*

VA Department of Game and Inland Fisheries: Amy Martin

VA Manufacturers Association: Tom Botkins

Virginia Save Our Streams: Stacey Brown

DEQ Staff Present:

*Alan Pollock (Facilitator), Jean Gregory, Elleanore Daub, Alex Barron, David Whitehurst,
Harry Augustine, Don Smith, Allan Brockenbrough, Jennifer Palmore, Vijay Satyal*

Others Present:

Rick Parrish, Mary Cromer (Southern Environmental Law Center)

Ed Cronin (Greeley and Hansen – City of Richmond)

Shari Bernard, Nancy Frantel (private citizens)

Jamie Mitchell (Hampton Roads Sanitation District)

Schedule:

Review: DEQ plans to ask the Board for approval to go to hearing with amendments to the water quality standards at the June quarterly Board meeting. After the economic impact assessment and review and approval by the Executive Office, the proposal will be published for public hearing and comment 60-90 days. This will likely occur in the fall. Staff plans to ask the Board for adoption in March 2008 with an expected effective date late summer/early fall 2008. This final effective date is dependent on EPA approval which is supposed to take 60-90 days. DEQ may ask the ad hoc committee to reconvene if public comment warrants more discussion and input from the committee.

Review and Discussion of draft amendments:

There are five areas of significant change. These are sections 50 (Dissolved Oxygen, pH and temperature), Section 140 (Table of Parameters), 170 (Bacteria for Recreational Waters), 185 (Chesapeake Bay) and 310 (Special Standards).

9 VAC 25-260-10 Designation of Uses

Minimum effluent requirements in the antidegradation policy clarified to refer to §§ 301(b) (1)(A) and (B) and 306 of the Clean Water Act (Best Available Technology and National Performance Standards) instead of more generally §§ 301(b) since this section also includes water quality based permit limits. This is a clarification consistent with EPA guidance.

A suggestion was made that the use designation paragraph which states that all state waters shall meet certain uses should also state “unless otherwise designated in the regulation” to alert the public there are other uses (like the Little Calfpasture benthic subcategory that is proposed).

9 VAC 25-260-20 General Criteria

Draft language was presented that prohibits mixing zones for bacteria (per existing agency practice) and modifies subsection B.11 to match language in the antidegradation section 30.A.2 which refers to new and existing dischargers instead of new and increased dischargers. The amendment discussed at the April meeting which made the mixing zone concepts applicable to other agency programs was taken out because of concerns raised from the Virginia Water Protection Program staff and ad hoc members at the last meeting. Therefore, the mixing zone section remains unchanged and says that mixing zone concepts are only used for Virginia Pollutant Discharge Elimination System. Staff was asked to rethink that again since mixing zone concepts may be an appropriate way to eliminate use changes below dam operations (like the Little Calfpasture River benthic subcategory proposed). If the area below a dam could be termed a mixing zone for the dam, the benthic data gathered there could not be used to list the water as impaired. Some thought that was an inappropriate use of mixing zone concepts.

9 VAC 25-260-50. Numerical criteria for dissolved oxygen, pH, and maximum temperature
DEQ has met with DGIF and USFWS to discuss how to address swamp water criteria for dissolved oxygen and pH. The groups have decided that the most protective approach would be to use a narrative criterion that recognizes the natural fluctuations of these waters. The other natural resource agencies will support DEQ in their defense to EPA that site specific numerical criteria for dissolved oxygen (many which would be zero) was not be protective of designated uses.

DEQ added a narrative which recognizes the natural quality of these waters may fluctuate outside of the values for D.O. and pH set forth above as water quality criteria. The natural quality of these waters is the water quality found or expected in the absence of human-induced pollution. Water quality standards will not be considered violated when these values are determined by the board to be caused by natural conditions and not due to human-induced sources. DEQ elected to include a reference to the need for site specific criteria but only when it can be developed after the evidence is sufficient to demonstrate that the site specific criteria will fully protect aquatic life uses. Right now, the evidence suggests that site specific numerical criteria are not protective per the advice of the DGIF and USFWS. DEQ is also suggesting that section 55 (Implementation procedure for dissolved oxygen criteria in waters naturally low in dissolved oxygen) be deleted. This section was designed to address natural dissolved oxygen impairments for the stratified waters of the Bay, stratified lakes and swamp waters. The Bay and lakes have been addressed via other rulemakings and since we are now addressing the swamp waters via a narrative criterion, the section is no longer needed.

The draft amendments also retained the statement that “Virginia Pollutant Discharge Elimination System limitations in Class VII waters shall meet pH of 6.0 - 9.0” but added “and no discharge shall cause a change to the natural water quality.” The reason for this was to ensure that discharges could not make the dissolved oxygen concentrations worse than natural background. There were several concerns with this statement. It sounds like it is only intended to address pH. Perhaps a second statement about dissolved oxygen is needed. A discharge pH of 6.0-9.0 might harm the aquatic life normally used to a lower pH. DEQ says there are no mixing zones in swamp waters, but wouldn't a pH of 6.0 – 9.0 in a low pH swamp unintentionally mean some mixing must take place before reaching natural background? Any discharge to any water will cause some change to that receiving stream. DEQ cannot say no change is allowed. The phrasing is too absolute. How can we say these waters are natural but then discuss permit limits? If this is only applicable to Class VII waters, how will other natural conditions be addressed? Will there be confusion between swamp waters designations and wetlands?

DEQ acknowledges these waters may have dischargers but the studies demonstrate that the dischargers do not contribute or change the natural qualities. DEQ will try to address the above mentioned concerns.

DEQ does not believe other naturally low dissolved oxygen conditions exist outside of stratified estuaries, lakes and swamps. However, if the situation arises, this would be handled via a site specific criteria modification or a use attainability analysis.

DEQ agrees there may be some confusion by the public regarding swamp waters and wetlands. The swamp waters are a subset of the universe of wetlands, which are regulated by a different program although the Board was required by EPA in the late 1990's to include wetlands in their water quality standards. By including wetlands in the use designations and general criteria, we made it clear all water quality criteria (toxics, bacteria, etc.) applied to wetlands. We hope that by listing the individual swamps as Class VII, we have made it clear that it is only the dissolved oxygen, pH and temperature criteria that are affected by this rule.

DEQ was concerned that the Class VII waters have no dissolved oxygen criteria (only a reference to the narrative footnote), yet the narrative refers to the criteria in the table. The consensus was not to put numerical criteria in the table.

There are mixed approaches used when dealing with natural impairments across the country so there is no clear definition on how to handle it. DEQ is looking for public support on using the narrative to identify and delist these waters.

9 VAC 25-260-90 Site Specific Temperature Requirements

This is a new amendment. DEQ would like to propose deletion of the protocol for developing site specific temperature criteria. This option has never been used and staff believes it represents guidance rather than regulation. Site specific criteria for all criteria are allowed under another section of the regulation (9 VAC 25-260-140 D). The narrative that refers to thermal variance will remain since thermal variances under the Clean Water Act have been granted.

9 VAC 25-260-110 Halogen Ban

USFWS and DGIF would like to see the endangered and threatened species waters listed in the regulation and at a minimum updated in the halogen ban section. USFWS will send DEQ an

updated list of waters that should go in this section. The endangered and threatened species waters should be listed so that more protective criteria (e.g. ammonia, chlorine, pesticides) may apply and/or special consideration taken for mixing zones in these waters.

9 VAC 25-260-140 Table of Parameters

DEQ would like to delete the opening paragraph to subsection B that indicates the agency may use information from the Environmental Protection Agency in establishing effluent limits as necessary until the board has completed the standards adoption process. Staff believes the general criterion is the appropriate regulatory mechanism to regulate parameters that have no criteria. In the past we have been cautioned about using language in the regulation that refers to future publications that have not been subject to the public participation requirements. It is unknown whether this section has been used (probably not). One reason to leave it in the regulation is that it is more specific than the general criteria.

The Table of Parameters has been updated to include the EPA 2000 Human Health Methodology (except for dioxin) and all updated aquatic life criteria. Fifteen of the human health criteria were published with the Relative Source Contribution (RSC) factor and these have been included. The RSC assumes 80% of exposure to the pollutant comes from other sources (food, air). The other human health parameters did not use the RSC and the main difference between them and the existing criteria is the higher fish intake value of 17.5 g fish/day. There is some concern that the RSC factors are estimates and not backed by studies. DEQ will review the basis and background for the RSCs for each of the fifteen parameters.

A footnote has been added to the table to clarify the criteria in the table are 2 significant digits and other criteria referenced in the table are the number of digits listed in their respective sections (e.g. dissolved oxygen is 2 and ammonia is 3 or 4 significant digits).

Subsection C (Application of freshwater and saltwater numerical criteria) has been updated to match the Bay program segmentation scheme for tidal fresh (freshwater criteria apply), oligohaline (oligohaline is transition zone and more stringent criteria apply) and mesohaline and polyhaline (saltwater criteria apply).

9 VAC 25-260-170 Bacteria; Recreational Waters

The geometric mean is the criterion because it is the environmentally relevant endpoint. The draft proposal still lists the criteria using the risk level for freshwater at 1% and marine 1.9%. The Health Department has still not agreed to the risk adjustment. What was formerly known as the single sample maximum is now drafted as a value that may be exceeded 10% of the time. This value applies only when there is insufficient data to calculate a geometric mean. DEQ believes this is acceptable because EPA gives States flexibility in application and expression of the single sample maximum. This expression of the criteria is protective of designated uses because it is more protective than the EPA published 75th confidence level, it is consistent with the past expression of the fecal coliform criteria and we are applying criteria statewide to provide all waters the same level of protection intended for beaches. This format is also easier for the public to understand. DEQ does not want to call this value a single sample maximum when that is not how it will be used (except at beaches it will be used as a single sample maximum for making beach advisory and closure decisions).

There is concern that the proposed criterion is based on attainment through the TMDL program which has not been implemented yet. The TMDL program should be implemented fully before making criteria adjustments. Attainment thus far has only relied on model results. Many miles of streams meet the existing criteria based on probabilistic data and only 15-20% can't meet. However, based on the DEQ ambient monitoring program over 60% of the streams are exceeding the existing bacteria criteria.

The number of impaired stations could drop from approximately 61% to 46% if the new criteria are adopted. The real impact from higher criteria will be in the more reasonable TMDL loadings developed. For example, we found the wildlife loading could be reduced or eliminated in some watersheds with slightly higher criteria. These proposed criteria will help move the TMDL program forward as the values will be viewed as more reasonable and attainable. The group was reminded that these criteria are protective of primary contact and are preferable to removing primary contact uses if the criteria cannot be met. DEQ believes it will be an inappropriate use of resources to attempt to meet the existing criteria when a small yet protective change like this can move the program forward towards restoring waters with problems.

The illness rates of 8 – 10 are estimates. The original 8 /1000 swimmers (.8%) illness rate was set arbitrarily and roughly correlates to the old fecal coliform criterion which does not correlate to gastrointestinal illness.

There were some who believe state waters are inappropriately designated as primary (vs. secondary) and others who believe humans will use all waters for recreation. There is also concern that DEQ is making broad attainability decisions instead of using the existing mechanisms for use attainability we already have.

There is general agreement this is a non point source issue.

9 VAC 25-260-185 Bay Criteria

The open water dissolved oxygen criteria apply year round but are proposed to indicate the assessment will be done in two seasons summer and non-summer. The water clarity 'no grow zones' are proposed for deletion (no shallow water use in the Elizabeth River segments). One issue staff is still working on is the water clarity zero goal segments with historically no submerged aquatic vegetation (SAV). This occurs in four oligohaline (turbidity maximum zone) segments. Staff does not agree with the acreages provided in the 2007 EPA addendum to the Bay Ambient Water Quality Criteria document. The addendum published these SAV acreages as 40% of the available habitat at .5M depth. These acreages are more optimistic than segments with historical SAV. DEQ is working with the Bay program and VIMS to either add acreages based on the 'single best year' concept that some of the other segments were based on (i.e. as we see SAV in these previously zero goal segments we would add those acreages as they would be the new 'single best year'). The other idea is to use the enhanced shallow water monitoring program to better identify the turbidity maximum zones in the oligohaline segments and better define the actual shallow water habitat and use a percentage of that habitat to estimate the probable SAV acres that would grow there.

It was suggested the introductory line of the water clarity section be revised to say "Attainment of the shallow-water submerged aquatic vegetation designated use shall be determined using any one of the following criteria" rather than "any of the following

criteria” to continue to distinguish the Virginia approach of listing based on SAV data in the absence of water clarity data. (NOTE: DEQ has considered this suggestion in light of the combination methodologies (SAV + water clarity) to determine use attainment that is presented in the new addendum. DEQ thinks adding “any one of the following criteria” may limit our ability to be consistent in future assessments with the Bay Program and Maryland. We would rather retain the flexibility at this time. We still plan to make impairment decisions based solely on SAV data in the absence of water clarity data.)

Other amendments to this section are updated references to the new addenda that have been published since the 2003 Bay criteria document.

The tidal fresh upper segment will be dredged over a 2-year period to accommodate the Richmond combined sewer overflow project. That dredging will likely prevent this segment from meeting any water clarity criteria.

9 VAC 25-260-290 Tidal Water Sampling

This is proposed for deletion. This requirement may be outdated and should be in guidance rather than regulation.

9 VAC 25-260-310 Special Standards

Special Standard “m” called the Chickahominy standard is clarified to reflect existing agency permitting practice. Special standard “s” is outdated and is proposed for deletion. Special standard “y” is clarified so that it applies to just the tidal tributaries which reflects the original intent of the standard. Special standard “ee” is the new pH criterion for Lake Curtis. Special standard “ff” is the clarification that the manganese drinking water aesthetic criterion is “dissolved” rather than “total” per Virginia Department of Health recommendation. The Health Department believes this is appropriate only for this site because of the conditions at this site and should not be expanded statewide. Special standard “gg” is the new benthic numerical criterion for the Little Calfpasture River which reflects a subcategory of benthic aquatic life uses. This standard has been modified since the last draft to show that the stream condition index of 20.5 applies only from the dam to river mile 0.76. Down to river mile 0.02 there will be a gradual recovery until the general aquatic life uses are met at river mile 0.02. Staff does not believe a more upstream location between 0.76 and 0.02 can be found where the general aquatic life uses are fully met. The downstream station at 0.02 is barely meeting the stream condition index representative of benthic uses now and is probably the closet station to expect full recovery once the dam is correctly operated. Other comments were that the ‘gradual’ recovery language was thought to be conjecture and unneeded, DEQ should re-consider using mixing zone concepts to address these use impairments below dams and that DEQ should be sure they can delist the stream with this new amendment. Special standard “hh” is new and is intended to apply to several warmwater streams that are stocked in the winter (they will be identified in the river basin tables). We are only addressing the consent decree waters this triennium, there will be more added as we identify them in future years. DEQ is working with the Department of Game and Inland Fisheries on all trout water related amendments.

9 VAC 25-260-320. Scenic rivers.

This section is proposed for deletion. The scenic rivers are listed in the Code of Virginia and have no regulatory function for DEQ.

9 VAC 25-260-350. Designation of nutrient enriched waters.

The remainders of the Bay watershed nutrient enriched waters are proposed for deletion. These water bodies now automatically fall under the Chesapeake Bay watershed nutrient effluent limits in the Nutrient Enriched Waters regulation.

9 VAC 25-260-380. Special standards column.

Exceptional or Tier 3 waters will be noted in the special standards column of the river basin tables.

Discussion of Outstanding Issues

Several members believe the state and federal endangered and threatened species waters should be listed in the water quality standards. Mixing zone prohibitions, more protective ammonia and copper criteria and the halogen ban would then apply to those waters. Another option is to refer to a published document that contains the list of waters. DEQ currently consults the DGIF database for endangered and threatened species when issuing permits. The memorandum of agreement recently drafted reflects the interaction between the agencies for endangered and threatened species protection when issuing permits.

Ammonia, Copper, Cyanide and Cadmium

DEQ intends to tell the Board that new information has been provided DEQ and our intent is to convene another advisory committee following completion of this triennial review to address the data submitted, look for additional published data and update the criteria as appropriate through a separate rulemaking.

Mixing zones and Persistent Bioaccumulative Pollutants

DEQ did not add an amendment to the draft proposal but considered some language that prohibited mixing zones to new dischargers for a list of bioaccumulative pollutants (those with a bioaccumulation factor greater than 1000). Of all the parameters on the list, polychlorinated biphenyls (PCB) present the greatest concern. Recently DEQ convened an advisory group to address developing guidance for monitoring PCBs in wastewater discharges using low level analytical procedures. DEQ is also working on developing the Potomac PCB total maximum daily loads (TMDL), the Bluestone River PCB TMDL, with several others planned. Delaware has been addressing PCBs via pollution minimization plans at various sites which seem to be successful (as opposed to permit limits). Because of a new lower analytical detection limit we are finding PCBs in municipal effluent at levels higher than the criteria. DEQ is evaluating these data to try to determine the impact of point source discharges to the PCB load.

Several members do not see why any further delay in prohibiting mixing zones for these parameters is needed. Further study will not change the fact that these parameters bioaccumulate and their input to the environment should be restricted. Other states have mixing zone prohibitions. DEQ and others are concerned of the impact of such a prohibition. Currently, there are discharges with hexachlorobenzene, mercury and dioxin that could be impacted. DEQ does not know how to gauge the impact of such a prohibition on mixing zones for new dischargers. Some believe that not knowing the impact is not a reason to move forward when we know these substances bioaccumulate at high levels in the environment, they have an impact on human health and point sources have been implicated in some cases (Roanoke). For most dischargers, the impact will be small since we don't routinely see these compounds at measurable levels. Others believe the agency has an obligation to determine the impact because removal of some of these compounds could be very expensive, especially at smaller plants. Resources needed and the necessity for end of pipe limits should be considered, especially if point sources are not associated with many of these parameters. The

agency should prioritize which controls are needed first before eliminating mixing zones and creating an unknown, potentially vast impact on point sources. A huge unknown exists as we find more and more of these substances at lower analytical levels. The Chesapeake Bay (C2K) agreement which calls for voluntary phase out of mixing zones is already in place and all that is needed. Another option is to institute a bioaccumulation reduction plan (similar to the toxicity reduction plan program) when a bioaccumulative pollutant is seen in effluent. There was some discussion as to how Delaware's PCB problem was associated with point source industry and Virginia's may be more diffuse (also an issue with mercury). Also debate that if these compounds are not seen now in effluent, then why the concern of impact vs. why bother with a prohibition if it has no impact.

DEQ will submit these concerns to agency management before making a final decision on the prohibition of mixing zones for bioaccumulative pollutants.

Antidegradation

The most recent antidegradation guidance is a step in the right direction but there is concern that the agency could and should use the parameter by parameter approach right now. The regulation is written so that this can happen, the clean up plans are written parameter by parameter, other states are using this approach (one state recently sued for not using this approach) and the EPA Handbook recommends this approach. There has been no justification provided to the group as to why the agency will not use the parameter by parameter approach right now.

The change in practice has been discussed with the division director and the appropriate path DEQ thinks should be taken is to form a workgroup to discuss this new approach, its impacts and subsequently revise the agency guidance.

Economic Impact

DEQ will be developing the impacts and benefits of these amendments and if any of the ad hoc members have information about impacts and benefits, they can share this information with Vijay Satyal or Elleanore Daub. For example, if anyone thinks their organization will be impacted by the amendments and/or if they can quantify that information that would be good information to share. The Natural Resource Damage Assessment is a publication that contains dollar amount assigned for fisheries losses, for example.

Handouts distributed at the May meeting:

Agenda, May 9, 2007

Summary of April 18, 2007 Meeting

Draft Amendments, 9 VAC 25-260 sections 5 – 380 dated May 9, 2007

Copies of Slides on for Several Issues (Timeline, Swamp Waters, Table of Parameters, Bacteria, Bay Amendments, Trout Waters, Persistent Bioaccumulative Mixing Zone Prohibition, Ammonia, Copper, Cadmium, Cyanide)

Comments Received via letter from Karen Mayne (USFWS) to Elleanore Daub dated April 27, 2007