Draft Minutes of the
November 18, 2015, Meeting of the
Water Resources Advisory Committee (WRAC)

Robert Cavett called the meeting to order at 9:33 a.m. on Wednesday, November 18, 2015, in the conference room of the Susquehanna River Basin Commission's office at 4423 North Front Street, Harrisburg, PA.

The following committee members were present:
Myron Arnowitt, Clean Water Action
Harry Campbell, Chesapeake Bay Foundation
Robert Cavett, Merck & Co.
Kent Crawford
Andrew Dehoff, Susquehanna River Basin Commission
Jeff Hines, York Water Supply
John Jackson, Stroud Water Research Center
Theo Light, Shippensburg University
Gary Merritt, NSG
Cory Miller, University Area Joint Authority
Dean Miller, Pennsylvania Water Environment Association
Stephen Rhoads
Jeff Shanks, Waste Management
Steven Tambini, Delaware River Basin Commission
Robert Traver, Villanova University

The following committee members were not present:
Jeannie VanBriesen, Carnegie Mellon University
Chuck Wunz, Wunz Associates

The following DEP staff members were present:
Tom Barron, Bureau of Point and Non-Point Source Management
Heidi Biggs, Bureau of Point and Non-Point Source Management
Sean Gimbel, Office of Water Management
Rod Kime, Bureau of Point and Non-Point Source Management
Rod McAllister, Bureau of Point and Non-Point Source Management
Lee McDonnell, Bureau of Point and Non-Point Source Management
Bonita Moore, Bureau of Point and Non-Point Source Management
Michelle Moses, Bureau of Regulatory Counsel
Kristen Schlauderaff, Bureau of Point and Non-Point Source Management

The following guests were also present:
Neal Brofee, PennDOT
Ellyn Campbell, Susquehanna River Basin Commission
Josie Gaskey, Pennsylvania Aggregates and Concrete Association
Denise Hakowski, EPA

Rachel Hurst, Pa Coal Alliance
Laura Legere, Pittsburgh Post Gazette
Gwyn Rowland, Susquehanna River Basin Commission
Bryon Ruhl, PennDOT
Heather Wilson, Capital Associates
Lora Zimmerman, US Fish and Wildlife Service (FWS)

Approval of Minutes – Stephen Rhoads made a motion to approve the minutes of the February 18, 2015, meeting. The motion was seconded by Theo Light. The minutes were approved by a 10-0 vote.

Triennial Review of Water Quality Standards: Updated Scope, Recommendations & Timeline – Tom Barron of the Bureau of Point and Non-Point Source Management gave an overview of the following changes DEP is planning to include as part of this triennial review package: Updated aquatic life criteria for ammonia, Updated recreational use criteria to include *E. coli* indicators, Revised human health criteria for toxic substances, aquatic life criteria for chloride, Site-specific criteria for copper, additional clarification about the application of water quality standards established under interstate or international agreements, and additional changes to 25 Pa Code Chapter 16 (relating to Water Quality toxics Management Strategy). Mr. Barron indicated that DEP was planning to submit a record of final rulemaking to EPA in September 2017.

Q: Will DEP include sulfate criteria in this Triennial Review?
A: DEP and EPA are still reviewing the research on sulfate. Stroud Water Research Center was still working on sulfate research presented to WRAC during the August 12, 2015, meeting.

Q: Do you expect any changes between now and when DEP presents a draft Annex to the Committee?
A: No.

Triennial Review of Water Quality Standards: Updates to Ammonia Criteria – Rod McAllister of the Bureau of Point and Non-Point Source Management presented the Committee with the acute and chronic ammonia criteria that will be part of the Triennial Review. Mr. McAllister noted that EPA published its final recommended aquatic life criteria for ammonia in April 2013, and this work underlies the criteria that will be proposed in Pennsylvania. The datasets used by EPA to determine acute and chronic toxicity contained numerous snail and mussel species, many of which are threatened or endangered. Six of the seven most sensitive genera in the acute dataset are found in Pennsylvania, and the two most sensitive genera in the chronic dataset are found in Pennsylvania. Mr. McAllister also indicated that since ammonia toxicity is dependent on pH and temperature, the Department is proposing formula-based acute and chronic ammonia criteria.

Q: Would it be possible to discuss in greater detail the constants and variables in the equation?

A: We weren't prepared to get into that level of detail with this presentation. However, we certainly could if the Committee so desires. In the meantime, please refer to the documentation EPA published in *Aquatic Life Ambient Water Quality Criteria for Ammonia Freshwater – 2013* (EPA 822-R-13-001).

Q: The equations presented here do not alter from EPA's criteria, correct?
A: Correct. These equations are the same as EPA's.

Q: What are the primary industry sectors with discharges that include ammonia?
A: Fertilizer manufacturers, sewage treatment plants, glass etching.

Q: What is the purpose of using coefficients at the 4th significant digit? It may be unnecessary to maintain such level of detail.
A: DEP will take the comment under advisement.

Q: What DEP is proposing is really a relaxation of the ammonia standards, correct?
A: The acute criteria are certainly becoming more relaxed. The chronic criteria are more relaxed at some pH values and temperatures, but more stringent at other pH values and temperatures.

WRAC members made the following additional comments: The concentrations of ammonia in Pennsylvania's waters are far lower than what is being proposed by the Department. So these criteria are likely to come into play only in the most heavily polluted waters.

DEP should develop some sort of online tool for the ammonia equations so that people can plug in known values to determine whether or not they would comply with the new standard.

Triennial Review of Water Quality Standards: Updates to Bacteria Criteria, Recreational Use – Rod McAllister provided a summary of updates to bacteria criteria for recreational use. Criteria for the non-swimming season (October 1 to April 30) will not be changed. Criteria for May 1 to September 30 are being proposed to change from 200 fecal coliforms/100 ml to 126 *E. Coli*/100 ml, which is based upon the 2012 National Recommended Recreational Water Quality Criteria. Additional state regulations relating to bacteria, such as 25 Pa Code §92a.47 (relating to sewage permits), and 28 Pa Code §18.28 (relating to bathing beach contamination) will not change. Additional regulations such as the BEACH Act, which pertains to Lake Erie and Presque Isle would no longer apply because the proposed criteria will apply statewide once adopted. The proposed criteria will apply only to primary contact recreation, which includes swimming, bathing, surfing, water skiing, tubing, water play by children and similar water contact activities where immersion or ingestion are likely. Other secondary recreational water contact activities like wading, fishing, kayaking, etc are pending development by EPA and will not be addressed in this Triennial Review.

Q: Did DEP perform an analysis of the laboratory costs associated with testing for *E. coli*

rather than fecal coliform?
A: DEP understands that the costs are now similar.

Q: Is the standard under the BEACH Act more stringent than the 2012 National Recommended Recreational Water Quality Criteria? The number of acceptable illnesses under the BEACH Act is eight while the 2012 Criteria is 32 or 36.
A: The epidemiological data behind the standards are different. The definition of illness changed. However, the same risk levels were carried over from one standard to the other.

Triennial Review of Water Quality Standards: Updates to Chloride Criteria – Rod Kime of the Bureau of Point and Non-Point Source Management gave a presentation on the development of revised chloride criteria for aquatic life. Pennsylvania currently has chloride critera of 250 milligrams per liter. However, it only applies for potable water supplies, which is applied only at the point of water supply intake. Research indicates that chloride criteria should be developed for aquatic life use. DEP has proposed chloride criteria for aquatic life use during the previous two triennial reviews, but withdrew both of those proposals in order to conduct further research. DEP relied upon chloride toxicity research conducted by Stroud Water Research Center using water taken from Pennsylvania streams and mayfly species endemic to Pennsylvania. Based upon this research and using EPA and DEP's Chapter 93 criteria development methodologies, DEP developed two separate equations – an acute chloride criterion and a separate chronic chloride criterion – that account for water hardness and sulfate concentrations.

Q: Are these equations EPA's or DEP's?
A: The hardness and sulfate equations are based upon EPA studies. The hardness coefficients of 349 and 112.7 were developed by DEP. DEP plans on going over the derivation of the chloride equations in greater detail at the next WRAC meeting.

Q: Chloride concentrations are typically lower than 10 mg/l, which is much lower than the numbers generated by these equations. Is it likely these proposed equations will only come into play with effluents and other activities like road salting?
A: Some effluents do have high chloride levels. As for road salting, DEP recognizes the need to balance public safety with environmental protection. We may have to rely upon best management practices for road salting.

Q: How would DEP handle drafting discharge permit limits on chloride? Would a high chloride level after a winter storm event serve as the baseline in determining a chloride limit in a permit?
A: First, chloride levels dissipate rather quickly after a storm event. Second, staff are unlikely to use these episodic conditions as background conditions in drafting permit limits.

WRAC members had the following comments on the chloride criteria:

- Shale gas development may be another significant source of chloride. However, the industry has relied upon zero discharge methods for dealing with brines.
- The chloride concentrations recorded over the past 15 years at Villanova's

raingarden average around 9.6 mg/l with a 75% mark around 31.6 mg/l. The greatest concentration recorded is 1,500 mg/l.

- The number of significant digits in the equations seems unnecessary.
- Salted roadways are clearly a source. However, the greatest chloride concentrations, as evidenced by research from the northcentral US, tend to come from parking lots. Budget pressures have led to state and local highway agencies to carefully monitor their salt applications. However, private applicators may not be as aware or prepared to apply salt as carefully.
- DEP may wish to evaluate deicing agents other than salt, particularly with regard to being toxic to aquatic life.

Triennial Review of Water Quality Standards: Updates to Human Health Criteria – Bonita Moore of the Bureau of Point and Non-Point Source Management gave an overview of proposed changes to human health criteria for toxic substances contained in 25 Pa Code Ch. 93, Table 5. On June 29, 2015, EPA published final updates for recommended Human Health Ambient Water Quality Criteria, which included updated human health criteria for 94 pollutants. EPA's updates incorporated new exposure factors for body weight, drinking water intake, and fish consumption. DEP will propose to adjust the human health criteria in Table 5 to reflect EPA's recalculated criteria. As a result, 55 of the pollutants currently in Table 5 will have more stringent criteria, 19 pollutants will have less stringent criteria, and nine will have no change. Five pollutants currently not in Table 5 will be added. Criteria for six other pollutants remain under review.

Q: Can DEP share which pollutants will be included in this review?
A: DEP will provide this information in advance of the Committee's next meeting. EPA's website also has the list of new criteria.

Q: EPA's criteria are based upon fish consumption of 22 grams/day, whereas Pennsylvania's current criteria are based upon 17.5 grams/day. Is there a problem with this change in assumptions?
A: The increase in consumption is the result of including additional sources of fish consumption beyond fish fillets. The new, higher value includes sources of fish such as can fish and soups. The dataset also changed and now includes more recent consumption patterns from 2003 to 2010.

Draft NPDES General Permit for Discharges Associated with Industrial Activity (PAG-03) – Lee McDonnell of the Bureau of Point and Non-Point Source Management offered an overview of the draft PAG-03 that was published in the Pa Bulletin for public comment on October 17, 2015. Mr. McDonnell highlighted the following changes with the proposed draft PAG-03 package: DEP is striving to stay in line with EPA's requirements for the NPDES program. Nine new appendices were added to the draft PAG-03 package that prescribe sector-specific monitoring and best management practices for industry sectors consolidated into Appendix A and Appendix J in the current permit. The eligibility criteria in the draft PAG-03 were modified to enable DEP to deny coverage where discharges contain, or are expected to contain, parameters that contribute,

or have the potential to contribute, to the impairment regardless of whether a TMDL has been established or not. Benchmarks for pollutants (for example, oil and grease, and suspended solids) were added to the draft permit. These benchmarks will not be effluent limitations, but rather will serve as a trigger to submit a corrective action plan to the Department and implement corrective measures. The draft PAG-03 will require an annual report due to DEP on May 1, which would serve as a notice of intent to continue operating under the permit. The annual report will require a summary of quarterly inspections of areas and activities exposed or potentially exposed to precipitation.

Q: Rather than creating more paper to review, why not conduct more inspections?
A: DEP is working on reducing paperwork and freeing up more time for staff to conduct inspections. Efforts to create an electronic annual report submission tool for the MS4 General Permit (PAG-13) hopefully will translate into improved efficiencies with managing other NPDES permit workloads.

Q: What is the basis for the benchmark concentrations? Will it be existing water quality standards or something else?
A: In the event criteria exist, DEP may follow them. Where criteria do not exist, DEP will need to develop the benchmark.
As a follow-up to this answer, a comment was made that establishing values outside of existing criteria is a concern because the development of new values could circumvent the public participation process.

Other comments from the Committee included the following:

- The Total Suspended Solids limit will be very difficult for permitees to meet.
- The comment period for the draft permit technically ended prior to today's meeting and WRAC would appreciate being engaged much earlier in the process, especially a general permit of this significance.

General Discussion –

A comment was made that EPA is in the process of banning the chlorpyrifos, a widely used pesticide. Some alternative pesticide will be used in its place and DEP should be aware of what that alternative will be. Further, DEP's laboratory should be prepared to test for whatever the replacement is.

Q: The November 8, 2015, edition of the Patriot-News had an article about EPA's evaluation of DEP's data reporting system. According to the article, EPA's evaluation was quite unfavorable to DEP. Is there anything WRAC can do to assist DEP in responding to this?
A: Lee McDonnell responded that EPA's analysis was based upon DEP's reporting system in 2008 through 2010 and DEP already addressed many of the shortcomings cited in EPA's analysis. Also, additional improvements will come as the Department complies with the EPA's recently finalized e-Reporting rule. DEP is also developing an eDMR that NPDES permittees will be required to use when submitting data to DEP. This new system will serve as a conduit to EPA's system and should fulfill most of the remaining

shortcomings in the report.

Q: Will mining permit reporting requirements be included in the new eDMR system?
A: Yes, mining will be included.

Q: What is the status of the groundwater quality monitoring database? This was part of a major initiative about ten or twelve years ago.
A: There is some groundwater monitoring, but it is down to a minimum.

Q: EPA finalized the power plant Effluent Limitation Guidelines (ELGs) this fall. Has DEP looked at how to implement the ELGs?
A: DEP is evaluating what is in the ELGs and will be implementing them as the Department issues or re-issues permits.
Q: Does DEP plan on discussing with WRAC how it plans to implement these ELGs? As you get into the details of the rule, there are issues related to co-mingling and ash management, selenium, and stormwater runoff that are complicated and worthy of discussion.
A: At this point the implementation will be taking place through permitting activities.

Q: In the spring of this year, EPA issued a directive that Pennsylvania was not meeting its goals relative to the Chesapeake Bay TMDL. Could WRAC have an update on DEP's plan to get Pennsylvania where it needs to be? Multiple members expressed interest in this question.
A: Mr. Cavett was aware that this was a long-standing request and indicated he would work with Mr. Gimbel to get this matter before WRAC.

A comment was made that DEP will likely release a Draft Integrated Report in early 2016. At some point DEP should brief WRAC on this report.

Public Comment Period –
Laura Zimmerman of FWS thanked DEP for working with FWS in the development of the draft chloride standard presented at today's meeting. Maryland is also developing a chloride standard.
Q: Has DEP had any interactions with Maryland concerning the development of chloride standards?
A: Mr. Kime responded that DEP met with them and DEP has Maryland's data. At this time, it appears that Maryland is taking a different approach.

Next Meeting Dates – The Committee discussed meeting dates for the 2016 calendar year. February 10, May 11, August 17, and October 26 were scheduled as meeting dates for 2016, with the understanding that meetings may be day-long meetings should the Department have sufficient agenda items to warrant all-day meetings.

Adjourn – The meeting adjourned at 12:07 p.m.