UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
Chesapeake Bay Program Office
410 SEVERN AVENUE
ANNAPOLIS, MARYLAND 21403

November 8, 2013

Dr. Kirk Havens, Chair
CBP Scientific and Technical Advisory Committee
645 Contees Wharf Road
P.O. Box 28
Edgewater, MD 21037

Dear Dr. Havens:

The Partnership's Management Board and the Water Quality Goal Implementation Team expresses our appreciation and gratitude to the Chesapeake Bay Program's Scientific and Advisory Committee (STAC) and the Umbrella Criterion Assessment Team for their efforts in developing the August 2012 report entitled, "Evaluating the Validity of the Umbrella Criterion Concept for Chesapeake Bay Tidal Water Quality Assessment." Thank you for the opportunity to respond to the report's recommendations.

Overall, we agree with the key recommendations highlighted in the report and several steps are already underway to address many of these actions. Our response to each specific recommendation is as follows:

1) Recommendation: Spectral casting and conditional probability analysis are recommended as useful tools for future comparative assessments of DO criteria protection evaluations. However, an expert panel should be convened to review the adequacy of the spectral casting method for assessing short duration criteria.

Response: At this time, we are taking this recommendation under further review pending the findings of an array of work associated with evaluating options for short term criteria assessment. If we need to return to this recommendation for further insights we will conduct more in depth analysis of the adequacy and application of the two methods in our criteria assessment framework.

2) Recommendation: Provide recommendations for incorporating high frequency DO measurements into the 30-day mean and other short term criteria assessments.

Response: We recognize the opportunity for incorporating high frequency DO measurements in the 30-day mean assessments and other short term criteria assessments. The 2013 Criteria Assessment Protocol Work Group (CAP WG) work plan has slated consideration of this issue for winter 2013/14.

3) Recommendation: Future comparative assessments of model outputs and monitoring data should be conducted using real-time DO data from times and locations coincident with some or all of the model's calibration period. Additionally, offshore, vertical water quality monitoring profiler data should be compared to simulated model output results.

Response: The Chesapeake Bay Program Partnership Modeling Work Group is working on a ribbon model of the near-shore zone of the Bay and, to the best of our understanding, using continuous monitoring data sets as part of the model calibration.

Response: Offshore vertical profiler data is available in very few tidal Bay locations and recent years. At the time of the Umbrella Criteria Assessment, years with vertical profiler data compared with the estuarine water quality model calibration period did not overlap. As the estuarine water quality model calibration period expands to include more recent years, opportunities to make these comparisons are inevitable.

4) Recommendation: Complete a Bay-wide assessment of summer season open-water and deep-water 30 day mean protection for the summer season open-water and deep-water 7-day DO mean and instantaneous minimum.

Response: A bay-wide assessment was conducted and published in USEPA 2004. High density data assessments remain limited. The CAP WG is not anticipating time and resources available for a revised complete segment by segment bay-wide analysis in the near term.

5) Recommendation: Provide recommendations for the best approach for assessing the short-term DO criteria.

Response: In a step by step fashion, this is the focus of the 2013 CAP WG workplan(workplan provided) with expectations of completing priority requests of the CBP community and capturing the best available science in a 2014 Chesapeake Bay ambient water quality criteria technical addendum publication.

6) Recommendation: Assess alternative definitions of 'instantaneous minimum' and present options for a new definition in the context of previous criteria assessments.

Response: The CAP WG is planning to conduct an autumn 2013 workshop to evaluate this question. Output of the workshop is intended to be recommendations for working with the existing definition or offering alternatives.

7) Recommendation: Consider and assess implications of separating shallow water (<2m) and offshore water for DO criteria assessments.

Response: The CAP WG is planning to conduct a spring 2013 workshop to evaluate the pros and cons of this issue in developing a recommendation for separate or coincident criteria assessment of the two habitats.

8) Recommendation: Further assess the effects of hydrodynamics and climate change impacts on the validity of the umbrella criteria protection assumptions.

Response: This was not listed among the priorities of the CBP community during the CAP WG 2012 request for priority decisions to be addressed in the next Ambient Water Quality criteria addendum. The issues are understood to be important but are a lower priority at this time.

9) Recommendation: Present options for illustrating criterion attainment uncertainty beyond our cumulative frequency distribution (CFD) assessment methodology.

Response: CAP WG will have a discussion on this issue in 2013. Any recommendations beyond the existing CFD approach will be documented and presented to the CBP community for consideration in updating the criteria assessment methodology for the 2014 ambient water quality criteria technical addendum.

10) Recommendation: Recognize the importance of violation duration and assess whether DO event duration is inherently captured by the CFD assessment; suggest an alternative if the CFD is not shown to address diel scale, biologically relevant low DO event duration concerns.

Response: This issue is part of the 2013 CAP WG workplan priorities. Preliminary results suggested a correlation of 30-day mean violations and maximum event duration detected in that 30-day period.

Please extend my thanks to those involved for their time and effort in the thoughtful production of this report. We appreciate the role of STAC in serving as an independent review body in improving our overall management of the Chesapeake Bay restoration effort.

Sincerely,

Nicholas A. DiPasquale
Director

ec: Management Board
Water Quality Goal Implementation Team
Modeling Workgroup