

TOXICS ADVISORY COMMITTEE
December 13, 2001

A meeting of the Toxics Advisory Committee was held at the Delaware River Basin Commission offices in West Trenton, NJ. Members or alternates present were:

Delaware Rick Greene	Pennsylvania James Newbold	Environmental / Watershed Dr. Laurel Standley Maya Van Rossum
Industry Larry Sandeen	Academia Not represented	Public Health Interest Not represented
New Jersey Nancy Immesberger	Municipal Dennis Blair	Agriculture Not represented
New York Not represented	Resources Dr. Sandra Brewer	U.S. EPA Cathy Libertz

Delaware River Basin Commission

Dr. Thomas Fikslin
Dr. Namssoo Suk
Dr. Daniel Liao
Robert Tudor
Pam Bush
John Yagecic

Other Attendees

Connie Carr, EPA Region III
Bruce Pluta, EPA Region III
Forsyth Kineon, DELEP
Eva Ammentorp, EPA Region III
Carol Ann Davis, EPA Region III
Linda Manning, Marasco Newton Group
Liz Rettenmaier, Marasco Newton Group
Anne Witt, NJDEP
Thomas Harlukowicz, PSEG
Jess Vargo, Occidental Chemical
David Katz, Philadelphia Water Dept.
Roy Romano, Philadelphia Water Dept.
Russ Furnari, PSEG
Ray Wittekind Jr., Mattioni, Ltd.
Tom Healy, Philadelphia Water Dept.
Chuck Yingling, PADEP
Dr. Steve Brown, Rohm & Haas
Dr. Joe Rogan, Exelon Power
David J. Piller, Exelon Power

I. Recommendations & Agreements

- The Wasteload Allocation Subcommittee will present their work at the January 2002 TAC meeting
- EPA will make a presentation on loads from RCRA and other waste sites at the January 2002 TAC meeting
- Periodic Watershed Advisory Council (WAC) updates will be added to the TAC agenda, as needed.
- The Coalition will review EPA's policy memo on the phased approach and schedule a meeting with EPA to discuss the phased approach and other adaptive approaches. This meeting will be open to all interested TAC members.
- DRBC will update the PCB Strategy with updated tasks and current studies

II. Call to Order

Meeting was called to order by Vice-Chair Standley at 9:35 AM.

III. Review of November 21, 2001 meeting minutes

Minor changes to the November 21, 2001 minutes were recommended. Mr. Greene motioned to approve the November minutes conditioned on the incorporation of the recommended changes, Ms. Immesberger seconded the motion, and the motion carried.

IV. Update on DELEP and EPA Activities

Ms. Libertz reported on the following DELEP and EPA activities:

- The DELEP Steering Committee would meet December 17, 2001. The agenda for that meeting included a presentation of the process of identifying measurable goals. The goals themselves are still under development and would not be presented at that meeting.
- The indicators workshop will be held January 22-23, 2002 in Philadelphia. An agenda was made available.
- No word yet on the exact amount of additional funding DELEP would receive as a result of the national funding increase.
- EPA Waste Management representatives would be available to discuss PCB loads from RCRA and other sites at the next TAC meeting.

V. Implementation Advisory Committee Discussion

Linda Manning and Liz Rettenmaier of Marasco Newton Group were introduced and discussed their role in the formation of the Implementation Advisory Committee (IAC). Ms. Manning stated that Marasco Newton’s responsibilities will include:

- Conduct interviews with potential stakeholders;
- Map out and present the interests and concerns identified from the interviews;
- Make recommendations to the commissioners regarding the composition and representation for the IAC.

VI. Superfund PCB Loads Presentation

Bruce Pluta and Cornelius Carr of EPA Region 3 Hazardous Site Cleanup Division presented ongoing work to identify and estimate PCB loads from CERCLA sites, including Superfund, National Priority List (NPL), and other sites. The work included creating a list of sites from the CERCLIS database where PCBs were reported as a contaminant. The initial list included:

Initial List

	<u>NPL Sites</u>	<u>Removal Sites</u>
Pennsylvania	16	10
Delaware	4	0
New Jersey	13	4

EPA made a preliminary determination of each site’s potential for continuing releases of PCBs to the estuary. EPA reviewed numerous sources of information including:

- Superfund narrative site summaries from Regions 2 and 3;
- Met with Superfund Remedial Program Managers to discuss investigation and cleanup activities;
- On-scene coordinator (OSC) reports;
- Fact sheets and file information for removal sites with PCB contamination.

Based on these efforts, a focused list warranting further information was developed:

Focused List

	<u>NPL Sites</u>	<u>Removal Sites</u>
Pennsylvania	7	9
Delaware	0	0
New Jersey	6	4

Mr. Pluta and Mr. Carr discussed 3 specific sites where remedial activity is ongoing.

Proposed future work includes:

- Completing a review of the Removal Site files;
- Review the files for pre-remedial sites (potential NPL candidates);
- Finish review of NPL sites upstream of the Fairmount dam on the Schuylkill River;
- Coordinate with Project Manager of the tidal Schuylkill Redevelopment Project (TSRP);
- Coordinate / exchange data with EPA Region 2;
- Check with Pennsylvania DEP on Act 2 PCB cleanups in the Estuary.

Subsequent discussion by TAC members identified several questions and issues that require further consideration. Questions and comments included:

- What form of deliverable will EPA provide;
- What is the timetable for calculating the loads;
- There appear to be substantial sources which fell below the EPA threshold for additional CERCLA action. A more comprehensive discussion of the thresholds used is needed to determine which sites need additional consideration outside the CERCLA process.
- Coordinate with states on PCB cleanups.

Vice-Chair Standley recommended that TAC members provide questions and comments to DRBC for subsequent coordination with EPA.

VII. TAC Liaison to Watershed Advisory Council

Mr. Sandeen reported that he has been serving as the TAC representative to the Watershed Advisory Council (WAC) at Chairman Ruiters' request. The WAC has met 4 times over the past year. Given the pending change in Chair, Mr. Sandeen indicated that the TAC needs to consider whether he should continue to serve as the TAC liaison to the WAC. Mr. Sandeen indicated that the TAC's involvement with the WAC will increase over the next 2 years, especially regarding development of the Comprehensive Plan. Mr. Sandeen indicated that there were 3 specific areas where TAC involvement was anticipated. These are:

- Sustainable uses – ecosystem needs;
- Restoring aquatic ecosystems (Goal 3);
- Institutional coordination and cooperation.

Mr. Sandeen indicated that the TAC liaison is a non-voting position.

The TAC agreed that periodic WAC updates should be added to the TAC agenda, as needed.

VIII. Update on Model Development

Dr. Fikslin reported on a conference call between the Expert Panel and DRBC staff held on November 27, 2001 regarding model development, and calibration / validation procedures.

Recommendations from the expert panel included:

- The hydrodynamic and sediment model should be more fine scaled, but the results should be collapsed (to a more coarse scale) for incorporation into the water quality model;
- The hydrodynamic model should be extended to the mouth of the bay. It was noted that DRBC staff had already extended the ECOM model to the mouth of the bay. The Expert Panel indicated that ECOM is a candidate for the hydrodynamic portion of the model;
- The sediment fluid mud layer may need to be incorporated into the sediment transport functions of the model;
- Data collection for calibration and validation should be on a monthly basis, but may need to consider 2 or 3 timeframes consisting of high-flow and low flow periods and possibly an intermediate period;
- The significant PCB sources need to be identified. Data collection for estimating loadings appears to be more critical than gathering more information on fate processes;
- Expert Panel recommended using average annual loads for initial calibration runs, and also recommended performing steady state calibration runs first followed by unsteady calibrations.
- The Expert Panel and DRBC staff agreed that a calibration / validation monitoring framework and a calibration approach would be developed for discussion at the next Expert Panel meeting.

Dr. Fikslin indicated that 2 new members would be added to the Expert Panel: Dr. Rollie Hemmett and Mr. Dale Rushneck. Dr. Hemmett's area of expertise is ambient monitoring. He was Chief of the Surveillance & Monitoring Section for EPA Region II for 15 years and is currently Science Advisor for Region II. Mr. Rushneck's area of expertise includes analytical chemistry and data quality management. Coordination with the Expert Panel to select the date of the next meeting was ongoing. Several potential dates were mentioned. Dr. Fikslin said that the TAC would be notified when the date was selected.

IX. Revision to PCB Strategy

The TAC discussed a proposed revision to the PCB Strategy prepared by the Coalition. In addition, the TAC discussed a memo prepared by EPA in response to discussions of Phased TMDLs included in the proposed revisions (attached).

Ms. Davis indicated that EPA may have a different interpretation of the phased approach to TMDLs and the applicability of phased TMDLs than the interpretation reflected in the Coalition revised Strategy. Ms. Davis stated that the phased approach still requires that the TMDL be

designed to meet water quality standards, and include both load allocations and wasteload allocations. The phased approach also requires a monitoring plan.

During discussion of the proposed revisions, concerns were voiced regarding some of the changes. Specifically, some TAC members were concerned that:

- References to effects were deleted or minimized;
- The proposed edits may not reflect the consensus of the Strategy Subcommittee;
- Some changes appear to reflect decisions that still need to be made by the TAC, rather than specific comments on the Strategy;
- The proposed edits may reflect some concerns which have already been addressed through the various research efforts;

Some TAC members stated that they still have concerns about non-point source characterization. They indicated that there have not been adequate efforts to estimate stormwater and CSO loads. Of specific concern is EPA's statement that if the non-point source reductions can not be assured, all reductions must be made by point sources. Several TAC members expressed doubt that water quality standards could be achieved by controlling point sources alone.

Mr. Tudor stated that DRBC and states have significant flexibility when it comes to implementing TMDLs. If point sources prove to be a truly de minimus source, implementation need not necessarily include a water quality based effluent limit. Fundamentally, implementation is a management and policy decision. DRBC and the states have the flexibility and freedom to do what makes the most sense and what is most cost effective.

The group agreed that DRBC staff should update the March 2001 version of the PCB Strategy to include the current status of the various investigations, and that the PCB Strategy Subcommittee would revisit the strategy document in light of the Coalition comments and issues. A final version of the Strategy, representing the consensus of the Strategy Subcommittee could then be raised up to the TAC.

The group also agreed that a subset of the TAC will meet with EPA Region 3 to gain a better understanding of EPA's position on phased or adaptive approaches.

X. Updates to Water Quality Standards

Dr. Fikslin reviewed the information presented during the last TAC meeting regarding proposed updates to the DRBC water quality standards. As presented at the last TAC meeting, the Uses and Standards Subcommittee of the Water Quality Advisory Committee is in the process of updating DRBC standards and considering required and proposed changes. The Uses and Standards Subcommittee has requested feedback from the TAC, either through a motion or general consensus, regarding toxics issues that could be incorporated into revised water quality standards.

Acute and Chronic Freshwater Aquatic Life Criteria for Metals

Dr. Fikslin indicated that in December 1998, EPA published water quality criteria updates in the Federal Register changing hardness-based formulas for acute and chronic freshwater aquatic life criteria (for total concentrations) of copper, zinc, cadmium, trivalent chromium, nickel, and lead. Pennsylvania has already adopted these revised criteria and New Jersey is considering a proposal to adopt them. DRBC originally adopted EPA's formulas (with the exception of lead) as standards, and specify a hardness value of 74 mg/L in the DRBC regulations for implementation. If the revised formulas were adopted by DRBC, lower numerical criteria for copper, cadmium, chromium, and nickel would result. For zinc, the criteria would rise slightly. Silver would remain unchanged.

Some TAC members discussed the possibility of making a recommendation supporting the new hardness-based formulas. Other members indicated that they needed some time to review the proposed changes with water quality specialists in their organization. The consensus of the group was that TAC members should coordinate the proposed changes with water quality specialists in their organizations in anticipation of making a recommendation at the next TAC meeting.

Human Health Criteria

Dr. Fikslin indicated that DRBC's human health criteria for toxics, adopted in 1996, are based on formulas (carcinogens and systemic toxicants) including variables for cancer potency factor and reference doses found in the Integrated Risk Information System (IRIS). The DRBC water quality regulations indicate that standards would be updated periodically based upon new data in IRIS. New information from EPA and the IRIS database which are likely to impact criteria include:

- New criteria for mercury;
- New cancer potency factors for carcinogens;
- New reference doses;
- New fish consumption rate;
- Bioaccumulation Factor (BAF) replacing Bioconcentration Factor (BCF) for some pollutants.

In addition, there are concurrent discussions in the PCB Criteria Subcommittee regarding changing the consumption rate and developing the BAF for PCBs.

Dr. Fikslin indicated that DRBC is considering updating the Human Health criteria where there are new reference doses (6 contaminants) and cancer potency factors (6 contaminants). DRBC would not recommend changing consumption rates and BAF for all pollutants in this iteration, but could do this on a pollutant by pollutant basis as TMDLs are developed.

TAC members discussed whether or not new fish consumption rates should be incorporated into all the toxics formulas at the same time. EPA voiced concern about

using different fish consumption rates for different toxics criteria. Dr. Fikslin indicated that it may be desirable to deal with cancer potency factors and reference doses in the near term, to deal with fish consumption rates in the near future, and to incorporate BAFs as part of a long range plan. Although incorporation of new fish consumption rates simultaneously would allow consistency among the toxic pollutants, and also consistency with proposed State of Delaware standards, the new fish consumption rates would lower all the toxics criteria substantially in zones 2 through 4 and part of zone 5. By comparison, incorporation of new cancer potency factors and reference doses would have a less dramatic effect on the criteria, decreasing some and increasing others.

The TAC members agreed that the issue would be revisited at the next TAC meeting. Dr. Fikslin indicated that the PCB Criteria Subcommittee would have another meeting prior to the next TAC meeting. That subcommittee has generally agreed to use the new fish consumption rate of 17.5 grams/day in calculating the new PCB criteria. In the interim, TAC members could consult with water quality experts in their organizations. If the PCB Criteria Subcommittee made a formal recommendation to incorporate the new fish consumption rates in the PCB criteria, the TAC would have to decide whether or not to request the Uses and Standards Subcommittee to incorporate the new fish consumption rate in the formula for all the other toxics criteria.

Chlorine and ammonia effluent standards

Dr. Fikslin briefly mentioned proposed changes to chlorine and ammonia criteria. The current ammonia effluent standards may be replaced with ambient water quality criteria. Further detailed discussion was deferred until the next TAC meeting.

XI. Scheduling of Topics and Dates for Upcoming TAC Meetings

Exact dates of the next two TAC meetings would be determined pending scheduling of the Expert Panel meeting.

Topics for the January 2002 meeting will include:

- Wasteload allocation presentation
- PCB loadings from RCRA and other sites.
- Preliminary discharger PCB sampling results.
- Water Quality Criteria updates
- TMDL Policies and Procedures.

XII. Public Comment

No public comments were presented.

XIII. Adjourn

Ms. Van Rossum motioned to adjourn. The motion was seconded by Mr. Sandeen. The motion carried, and the meeting was adjourned at 3:12 PM.

Attachment A - Application of a Phased TMDL

Thomas Henry, TMDL Program Manager

December 12, 2001

The Attachment A - Application of a Phased TMDL, is based on sections of proposed regulations and EPA guidance taken out of context and misinterpreted. EPA cannot use and will not approve TMDLS based on the proposed regulations dated July 13, 2000. Selection of the use of portions of the proposed regulations (the discussion of the phased approach) that appear to be beneficial and avoiding those portions that are not beneficial (inclusion of an implementation plan) is also questionable.

In short any TMDL that is developed and approved by EPA must be designed to meet water quality standards. The Clean Water Act (and the implementing regulations) requires that TMDLS attain and maintain applicable water quality standards. As noted in the 1991 TMDL guidance "Under the phased approach, the TMDL has LAs and WLAs calculated with margins of safety to meet water quality standards." Therefore to develop a TMDL that does not contain appropriate WLAs and LAs and is not expected to meet water quality standards cannot reasonably be expected to be approved by EPA.

Attachment A notes that "Phased TMDLS are an iterative approach to TMDL development and are used when existing data are not adequate to determine needed pollutant load reductions from pollutant sources being addressed or to determine the controls necessary to address impairments." This is not a proper interpretation of the Phased approach to TMDL development. The 1991 guidance states that the "phased approach is required when the TMDL involves both point and nonpoint sources and the point source WLA is based on a LA for which nonpoint source controls need to be implemented." In essence this is stating that there must be assurances that the controls on any nonpoint sources will be met in order to allocate a larger load to a point source because of the reduction expected from the nonpoint source. If the nonpoint source reductions cannot be assured then all of the reductions must be made by the point sources. The phased approach allows this type of point - nonpoint allocation combination with a lesser level of assurances of the nonpoint reductions by monitoring the water quality after implementation of both the nonpoint and point controls (through NPDES permits). This monitoring is required under the phased approach to make sure that the expected level of nonpoint source removal is in fact being met. This is where the phased approach allows further pollutant reduction without waiting for new data collection or analysis, i.e., new analysis and data to show that the proposed nonpoint source reductions WILL be met. If the new data shows that the expected nonpoint source reductions cannot be met then, as noted in Attachment A, "...the controls are reevaluated and strengthened or changed (an increase in point source controls)...". The phased approach was not envisioned to allow a TMDL to be developed that, based on existing data and analysis, is not expected to meet water quality standards.

The phased approach also requires a schedule for the installation of all proposed controls (including point sources through the NPDES requirements), a description of the expected pollutant reductions from the controls and the expected time frame in which the water quality standards will be met. This information is required in order to assure that standards will be met

in a timely fashion and that, if they are not then a timely revision of controls will be made.

Phased TMDLS also allow the development of TMDLS and the implementation of needed controls without waiting for the "perfect" set of data. Most all, if not all, water quality modelers and analysts will collect data and refine water quality models, etc endlessly, always wanting that next set of data to improve the predictions. The phased approach allows a TMDL to be developed without that "perfect" data set by incorporating a larger than "normal" margin of safety (MOS) and a monitoring plan. This monitoring plan can be used to refine model assumptions if needed. The first "phase" TMDL would include allocations to all sources of the pollutant - point and nonpoint - and a MOS that, with existing modeling capabilities, show that water quality standards would be met. The MOS is adjusted based on the level of "accuracy" of the analytical tool. In situations where there is a large margin for error in the model a larger MOS would be assumed, resulting in a lower allocatable load for the sources. Additional monitoring and modeling after the first phased is completed could allow an adjustment of the MOS and allocations. Again the phased TMDL is designed to meet standards and the proposed controls for all sources are expected to be implemented. As the 1991 guidance states, the monitoring program should "...include assessment of water quality standards attainment, verification of pollutant source allocations, calibration or modifications of selected models, calculations of dilutions and mass balances, and the evaluation of point and nonpoint source control effectiveness."

The Attachment A notes that "Typically, phased TMDLS focus on the implementation of controls other than those already accounted for in the form of NPDES permitted discharges." This statement taken out of context may be misleading. As noted above, the emphasis of the phased approach is the level of controls that can be effected from nonpoint sources. But only in the way it would impact the levels of control expected from point sources, as explained above. Therefore, implementation of controls in phase 1 of a TMDL would not include ONLY nonpoint sources but also the needed point source controls (through the NPDES permit process) in order to meet water quality standards, as determined through the water quality modeling analysis (modeling). The phrase taken from the proposed regulations supports this, if taken in context. The proposed regulatory language is consistent with the discussion in paragraph 3 above and is consistent with the 1991 guidance.

In short EPA cannot approve a TMDL, including a phased TMDL, that is not designed to meet water quality standards and does not include appropriate WLAs and LAs necessary to achieve those standards. If the modeling shows that both point and nonpoint source controls are necessary to achieve the standards then the TMDL must include the appropriate allocations for each and the subsequent NPDES permits issued for the contributing point sources must be consistent with the WLAs. Further there must be a reasonable expectation that any allocations made to the nonpoint sources are achievable.