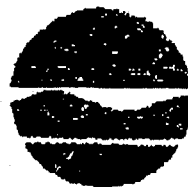


New York State Department of Environmental Conservation
60 Wolf Road, Albany, New York 12233



Thomas C. Jorling
Commissioner

DATE: September 20, 1991

TO: Dr. Daniel Abramowicz, Chair, Science & Technical
Committee

FROM: Richard Bopp, NYSDEC

RE: Hudson River PCB Reassessment RI/FS Phase 1 Report

My general comments on the Phase 1 Report are as follows:

1) On page I-2, it is revealed that the "Superfund site itself, however, extends to the Battery in New York Harbor". What are the implications of this statement?

2) p. I-3 refers to the "large spring floods in 1976 and 1983"; p. B.4-31 informs us that there "have not been any major flood erosion events since 1976". Page B.3-29 mentions the "abnormally low spring floods of the 1980s", while the TAMS analysis indicates that the 1980s included one spring flood that exceeded the once-in-ten-year-daily-average flow (1983) and two that exceeded the once-in-five-year flow (1983 & 1987). I expected a more consistent and quantitative analysis of river flow during the period covered by monitoring data.

3) PCB mass balances and approximate budgets should be dealt with in a single section, focusing on how estimates were derived, assessing the uncertainties, and attempting to place constraints on important fluxes using mass balance considerations. For example, estimates of total PCB inputs from CE range over a factor of five - if it is not possible to use mass balance arguments to narrow this range, that should be explained in detail. On page A.2-2, the 1973 PCB flux from the upper Hudson was estimated at 5,000 kg; page A.4-2 implies a flux of 24,000 kg during that year.

Even if a mass balance approach does not significantly lower such uncertainties, it would focus attention on areas where additional study might be useful and better define the level of uncertainty that is likely to persist.

4) Section A.4 reviews the Thomann model pointing out the

314488

complexities and several problems with the formulation and assumptions. It does not, however, address the central question- Will the reassessment require that such a model be developed for the upper Hudson? If the answer is yes, EPA should clearly present both its reasons and specific plans for model development.

5) Page B.3-13 refers to some fairly extensive sediment sampling conducted by CE in 1990. Is a detailed review/presentation of this data anticipated? The total PCB data presented in Table B.3-8 are quite interesting. A close look at congener patterns is indicated.

6) Page B.3-14 reports mean lead and cadmium levels in upper Hudson sediments that are about an order of magnitude greater than found in pre-industrial sediments. Except for the mention that standard leaching tests suggest that the metals are not readily leachable, the implications of this contamination are not discussed. Can EPA provide comment or guidance?

7) P. B.3-40 - Air Monitoring - The only discussion of replicate sample analysis or other QA/QC involves CE's sampling at the remnant sites. The suggestion of very significant sampling or analytical problems suggests at least some evaluation of the QA/QC associated with earlier studies.

8) Section B.3-7 - Adequacy of PCB and Aroclor Measurement - I believe that the potential for underestimation of total PCBs in upper Hudson sediment and water column samples is much greater than suggested here. The components most likely to have been significantly underestimated in the DEC sediment surveys and USGS water column monitoring are mono and dichlorobiphenyls. My suspicions are based on J.F. Brown Jr. et al. 1984, Bopp et al. 1984 & 1985, and CE's recent review of the packed column chromatograms from the 1984 sediment survey. This topic should be discussed in more detail at the STC meeting.

The table on page B.3-50 appears to have some inaccuracies. The text indicates that in the 1984 sediment survey, Versar used all of the Webb & McCall peaks with retention times between 21 and 84 to quantify Aroclor 1242 levels, while the table reports that only peaks with retention times of 28, 47 & 58 were used. The table also reports that Bopp et al. 1985 "Analyzed for Total PCBs as Sum of Peaks 28-174". This is misleading as Bopp et al. went to great lengths to explain that the sum represented a total of the predominantly tri through hexachlorinated components that were quantified. In addition, they cited examples where mono and dichlorobiphenyls (not routinely quantified in that study) comprised about 50% of the total PCBs in a sediment sample and dichlorobiphenyls made up 15 to 50% of the total PCBs in water samples.

9) Page B.4-42 - It is not clear whether the projection of

thirty-year average PCB concentrations in fish used the entire historical data base or only the more recent fish data. In the former case, the projection may not adequately model the fact that the "rate of decline has been very low in recent years". This would result in an underestimation of the thirty-year average PCB concentration.

10) Section B.5 - Sediment Transport Modeling - I am not convinced of the predictive value of such a model. I am certain that a model can be developed to fit the calibration data and yield outputs that match simple intuitions, beyond that, I remain skeptical. Perhaps TAMS or EPA could provide detailed examples of past successes of complex sediment/contaminant transport models.

*relatively
min.*

11) Some final minor comments - The discussion of nitrate in the lower Hudson (p. A.1-10) is not completely accurate (is it necessary at all?). On p. A.2-6 change "(mg/l)" to "(ug/l)" and on p. 3.3-43 change "formed" to "found".

cc: 1. Carcich
D. Tomchuck, USEPA-Region II

314490

TOTAL P.04