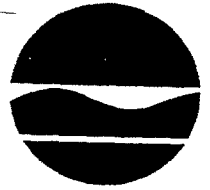


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DAYBOOK

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233 - 7010



Thomas C. Jorling
Commissioner

MAR 21 1991

Mr. Douglas Tomchuk
U.S. Environmental
Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Dear Mr. Tomchuk:

RE: Hudson River PCB Site
Site No.: 5-46-031

The following comments are on the Phase 1 - Work Plan for the Hudson River PCB Reassessment Project. Per our telephone conversations the due date for comments was extended to March 22, 1991.

GENERAL COMMENTS

1. In general, the scope of the work is increasingly being weighted toward developing mathematical models. TAMS and Gradient have continually requested data from the NYSDEC over the last few months. The existing data should be used for more than the development and calibration of models. The focus of reviewing the data should be centered on a meaningful evaluation of the historic and current trends in the river. The data should be extrapolated and interpreted to answer as many major questions as possible prior to committing to the modelling effort. This will allow the models to be focused to questions that need to be answered.
2. The major focus of Task 2 and Task 3 appears to be aimed at preparing a model to predict PCB levels in fish and sediment transport. With so much data available, are models needed and will they provide additional information required for the decision making process?

Before committing to any complicated modeling, compile the existing fish, water column and sediment data and analyze trends in these data as a basis for extrapolation. (While such analysis was proposed in the work plan, it was not given sufficient emphasis in terms of determining the appropriate level of modeling effort.)

EPA should then formulate specific questions to be addressed. Wherever possible, answers should be supplied from direct consideration of the existing data and trends.

If specific and significant gaps are identified, two paths should be considered - gathering additional data and resorting to models.

Even at this point, before embarking on modeling, EPA should evaluate the probability that the modeling effort will improve, rather than obfuscate, the situation with respect to their ability to come to a decision.

EPA should review the "track record" of sediment transport and pollutant accumulation models. Before proceeding, EPA must be convinced that the modeling approach will be cost effective.

The approved scope of work states that "TAMS will use existing data to the maximum extent possible" and the EPA letter dated November 21, 1990 states that previous comments will be considered during the development of the models. Prior to initiating development of models, we should first determine their usefulness and their reliability for this particular situation.

The existing data must first be reviewed in detail to determine if trends exist. After the review of all existing data, USEPA must determine if and why a model is needed. To assist in this determination USEPA should list specific questions which need to be answered. The following is a list of questions and criteria which will be useful in deciding whether to proceed with models and selecting the appropriate models for this project:

- a) What questions can be answered with existing data or new field data?
- b) Are models cost effective? What is the estimated cost? How long will it take to produce calibrated and/or verified models?
- c) Compare key assumptions versus river dynamics; especially natural and regulated flow patterns and the impacts of these flow patterns on transport portions of the models. Also, any application of models below the Federal Dam at Troy must account for estuarine transport mechanisms vs. river flow conditions in the Upper Hudson River.
- d) Have the models been used successfully on other similar projects and types of contamination.

- e) The models to be used should not be arbitrarily selected. A list of models to be evaluated and the criteria for determining which models are most appropriate should be developed.
- f) Can time averaged models adequately portray the effects of seasonal and regulated flow patterns.
- g) Will the model predictions be better than analysis of existing data.
- h) What degree of reliability of model predictions is needed? Are calibrated or verified models needed?

MAJOR COMMENTS

1. The consultant should develop an inventory of data sources. The consultant has visited the New York State Department of Environmental Conservation office to obtain information on the site. A general listing of data sources and data should be provided as soon as possible to evaluate the thoroughness of the database that is being assembled and if any existing data sources have been overlooked. The inventory of data sources should be presented in the Phase 1 Preliminary Reassessment Report.
2. It appears Task 1 items A-D are strictly related to the Upper Hudson. There seems to be no purpose for conducting an inventory of "other possible sources of PCB contamination along the river", since it is obvious that the vast majority of PCB loading came from the discharges of the General Electric Company. The PCB inputs from dredged disposal sites could be evaluated as a potential source since groundwater monitoring data is available and can be used to estimate a flux into the river.
3. Task 2 appears to rely heavily on the Thomann model. The approach that will be used by the consultant should be clearly identified. The concept of applying the model to the Upper Hudson has questionable merit, since the validity of the model for the Lower Hudson has not been proven. Please see Comment #2 under general comments for procedures to select a model.
4. Page 2-5 references "expert scientific opinion" and "expert opinion", please expand this discussion in the work plan based on the work experience of the staff that has been assigned to the Project. Will these opinions be solicited from the scientific and technical committees?

5. As mentioned in earlier comments, there is a continued emphasis on models. Despite detailed objections expressed in our comments on the use of models in the Scope of Work, the dependence on models has not being justified. We are now faced with a "Management Model" in addition to bioaccumulation and sediment transport models. Before developing a "management model", an evaluation should be made regarding the existing data and available literature to determine if biological accumulation factors and biological concentration factors exist for PCBs. The "management model" is not clear. The use and purpose of the model should be fully described. This task may not be necessary if the relationships have already been established by other investigators.
6. Page 2-8, second paragraph, talks about the "cold spots" below the Thompson Island Dam. The use of the terminology must be consistent and should be explained. The term cold spots applies to the entire river and are the areas that are less than 50 ppm but contribute to PCB migration. In other words there are "cold spots" in the Thompson Island Pool, and hot spots in the lower pools. In general all of the "cold spots" cannot be considered homogenous. It would be less confusing to discuss the distribution of PCBs without the reference to "cold spots" versus "hot spots". This comment was also voiced at the steering committee meeting.
7. There appears to be a lack of PCB related experience of the project personnel. A scan of the resumes indicated that only David Merrill listed PCB related projects or publications. The lack of PCB experience is of concern because:
 - a) An "evaluation of reports which may suggest dechlorination of PCBs has occurred within the river" (p. 2-3) will be made.
 - b) The discussion of PCB toxicity includes reference to Toxic Equivalency Factors (TEFs) despite the fact that their use has no regulatory standing at present. If TAMS is to evaluate research on PCB toxicity, their efforts should address not only TEFs, but also the published work on neurotoxicity that implicates lower chlorinated, ortho substituted PCB congeners.
8. The consultant appears to have some significant misunderstanding of the data available for the Hudson River PCB projects evidenced by:

- a) TAMS proposes "calculation of mass loads from the Upper Hudson over the Federal Dam" (p. 2-3). How do they propose to enhance or improve on the USGS calculations? The USGS work has not been referenced in the work plan and should be incorporated into the re-evaluation.
 - b) The risk characterization and assessment sections do not mention the significant work in this area reflected in "The 1984 Superfund Decision for the Hudson River; The Case for Reconsideration; August 25, 1989" and subsequent work by Mark Brown. These efforts should be utilized rather than duplicated.
9. Page 2-12, last paragraph should include an evaluation of the mink population (or lack of it). The reproduction failure of the mink in the Upper Hudson must be discussed.

MINOR COMMENTS

1. Page 2-1, second paragraph, second sentence should be revised to read: "Investigations dating back to the early and mid 1970's have documented PCBs in river sediments, the river bank deposits at the remnant deposit and numerous dredged disposal sites, surface water, fish, other biota and air."
2. Page 2-1, third paragraph, add "and sediment survey" at the end of the first sentence. Remove the word "additional" from the second sentence and replace it with "limited".
3. Page 2-1, fourth paragraph, the beginning of the fourth sentence should be revised to read: "New data, will be validated and compared ...".
4. Page 2-9, Baseline Human Health Evaluation, first paragraph must be revised to reflect the results of the Waterford Water Study. That study concluded that the use of the River as a drinking water source, after treatment was acceptable.
5. Section 2 omitted a discussion on the oversight committee which is an important part of Community Relations Plan.

Please respond with an item by item response which addresses the use of these comments similar to the comments on the scope of work.

Mr. Douglas Tomchuk

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If you have any questions or wish to discuss these comments
please feel free to contact me at (518) 457-5677.

Sincerely,



William T. Ports
Environmental Engineer 2
Bureau of Central Remedial Action
Division of Hazardous Waste Remediation

cc: C. Petersen
M. Hauptman
R. Montione

WTP/slj

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