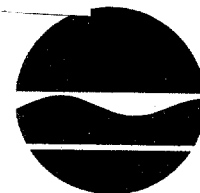


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New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233 7010



Thomas C. Jorling
Commissioner

July 24, 1992

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

Dear Mr. Tomchuk:

RE: Hudson River PCB Reassessment RI/FS
Site No.: 5-46-031

Listed below are comments concerning the Phase 2 Work Plan and Sampling Plan for the Hudson River PCB Reassessment RI/FS dated June 1992. While reviewing this document, the Responsiveness Summary document was received. Regrettably, I have not had time to review the responses to my previous questions and comments on the Phase 1 Report. This was very frustrating since I must now first complete comments on the Phase 2 Work Plan and Sampling Plan. I can imagine the frustration other interested parties must feel at this time because they are volunteering their limited free time to work on this project. I plan to send additional comments regarding the proposed Phase 2 Work based on a review of the Responsiveness Summary, if necessary.

An overall concern with the Phase 2 Work Plan and Sampling Plan was brought up during the most recent Scientific and Technical Committee Meeting. The objectives of the Work Plan were not clearly stated. A similar question occurred during the review of the Phase 2 Work Plan; Will the data being gathered allow EPA to select the most appropriate remedial alternative? The additional data will update the current data base, but the same decisions regarding the contaminated sediments will remain. The Work Plan should be developed from iterative interpretation of Phase I and the Preliminary Feasibility Study results to identify data gaps needed to select a remedial action. The project will basically boil down to a Feasibility Study through the detailed evaluation of alternatives. It is important to start the development and evaluation of alternatives now so that any additional data needs that are identified can be met without delaying the current schedule you have outlined.

It is very important to develop a detailed project schedule which can be periodically updated to outline the work which is being performed. This schedule would be useful in the Community Interaction Program to keep the public informed on the progress and remaining work.

The comments below correspond to the respective chapter.

Comments on the Phase 2 Work Plan
Hudson River Reassessment Remedial Investigation/Feasibility Study
Site No.: 5-46-031

General Comment:

1. The Work Plan should clearly outline how the information will be used to evaluate the impacts to the environment. The Reassessment should consider human health and environmental risks equally as is the practice with other Federal and State Superfund projects in New York. For example, Marathon Battery (Cold Spring), Onondaga Lake (Syracuse), and Nassau Lake (Nassau).
2. The focus on the "new sources" in the area above Rodgers Island should investigate the following areas as potential continuing releases:
 - a. Baker's Falls Pool adjacent to the G.E. Hudson Falls Plant. This area may contain a significant amount of PCB contaminated sediments because of historic discharges;
 - b. G.E. Hudson Falls Plant Site is known to have PCB contaminated soils. Groundwater movement through this site could be a source of PCBs detected in the water column;
 - c. The area surrounding the G.E. Ft. Edward Discharge to the Hudson River and;
 - d. Remnant Site 1

Specific Comments:

Chapter 1

1. The concluding paragraph in this chapter focuses on the risks to human health and ignores the risks to the environment. Has a decision been made to exclude protecting the environment as an important factor in the Reassessment Process? This paragraph needs to be rewritten to include the

other evaluation criteria which is used to select the most appropriate remedial alternative.

Chapter 2

1. Page 2-1, Study Area A should contain areas which were not contaminated by historical discharges from the General Electric Hudson Falls Capacitor Plant. The boundary for Area A should be above the Hudson Falls Wastewater Treatment Plant discharge. This is because of the historical information that General Electric discharged PCBs to the Hudson Falls Wastewater Treatment Plant.
2. Page 2-4, Will comparisons be made with actual historic data to verify the water column information?
3. Page 2-5, Will the sampling be able to identify the sources of contamination? EPA should take groundwater elevations and samples from the Hudson Falls Plant which coincides with the timing of the surface water sampling.
4. Page 2-8, The area for low resolution coring should begin in the area of the Hudson Falls Wastewater Treatment Plant. This is because of the known historical discharges of PCBs to the Hudson Falls Wastewater Treatment Plant.
5. Page 2-8, The Low Resolution Coring must be applied to the Baker's Falls Pool.
6. Page 2-8, Other areas should also be considered for the low resolution sediment coring program; such as G.E. Ft. Edward discharge point. Also, see areas discussed in Comment 9, below.
7. Page 2-8, Does EPA know of General Electric's data collection? EPA should request that GE summarize its proposed and past sampling activities.
8. Page 2-10, The sampling of Study Area B for the ecological risk assessment is misrepresented. The only planned sampling mentioned in Chapter 7 is a reconnaissance survey of selected shoreline areas.

Chapter 3

9. The Bakers Falls area of Area B appears to be a possible continuing water source of PCB loading as previous samples have found levels as high as 1900 ppm of PCB. There is the possibility that an additional source is present in the areas where General Electric had its outfalls located from both the Hudson Falls Plant and the Fort Edward Plant.

Based on the information collected, how will the information be used to identify a source area? Will additional sampling be performed to focus on potential source areas? We recommend an iterative and flexible approach to allow for the identification of the source area. Low Resolution Sediment Coring should focus on the following areas:

- a. The area between the Fenimore Bridge and Baker's Falls.
- b. The area where Remnant Site 1 existed and where it currently exists in the river.
- c. The area where the General Electric Fort Edward Plant discharge is located.

Attention should be given to the areas where known discharges occurred.

10. Page 3-4, The following statement needs to be changed or removed ... A preliminary interpretation of these data suggests that a significant portion of the PCB load on these days was derived from the Thompson Island Pool and that the source from the Pool had significant portion of mono and dichlorobiphenyls, unlike any of the known historic releases to the area." (underline added)

We disagree with the last portion of the statement (underlined), First, the Interim Order and Opinion, Feb. 1976 (Sofaer) lists the purchase from 1971 to 1975 of 11,500 lbs. of Aroclor 1221 by GE. Secondly, the apparent difference in homolog weight percent for the General Electric supplied data could have a number of explanations. The explanations of the data belongs in the Phase 2 report. Environmental weathering of the PCBs could explain the presence of the monochlorobiphenyls. The homolog weight percents of dichlorobiphenyls in the Thompson Island Pool water sample is very similar to the weight percents found in the Standard Aroclors, 13% and 20% compared to 16% and 20% for Aroclor 1242 and 1016.

Chapter 4

1. The data collected by others should undergo data validation or some type of review or screening.

Chapter 5

First Comment, Will the modeling effort perform calibration and verification of the results that are obtained?

Page 5-1, What are the human health criteria being used at the current time? The 2 ppm level mentioned in the Work Plan is from the Food and Drug Administration and would still pose an unacceptable risk. As a target, the Wildlife criterion of 0.1 ppm should at least be considered.

Page 5-11, As a point of information, Sloan et al. 1984 showed
section that predictive capability might consider data on an
5.2.2, "Aroclor" basis and across different flow regimes.
par. 1,
last
sentence

Page 5-12, We agree with this paragraph
last par.

Page 5-14, The tendency riverwide is to equilibrate to average
at bottom representative conditions spatially. Hence, the simple
and top of BAF approach is still applicable and the overly
5-15, complicating approach in 5.2.3 may be unnecessary and
 adds another layer of detail requiring presentation,
 explanation, and interpretation. Through time and
 space, the river and the fish are effective integrators
 of what is happening. Although detailed answers are
 intellectually satisfying, such precision is perhaps
 unnecessary for implementing macroscale remedial
 measures.

In Chapter 5 another scenario for consideration would involve what happens if the Barge Canal system is abandoned and the dams fall into disrepair. Since these structures presumably trapped much of the PCB contaminated sediments, if these are ruptured or removed, it is very likely that the contamination clock is reset to earlier conditions, although perhaps not as severe as those observed ca. 1977.

Chapter 6

Page 6-1, Change "recommend" to "assumed".
section
6.1.1.1,

Page 6-3, In the event that ECAO fails to establish an RFD for
section PCB, to ignore potential non-carcinogenic effects would
6.1.2.2, be a major mistake.

Page 6-4, In regard to other sources in Areas C and D, for a
section health risk assessment this is a moot issue since the
6.2, risks are real regardless of origin and the other

sources would likely dilute or dampen the influence from upstream (which is why the fish data exhibit a downstream gradient) and furthermore, the area above Troy is deserving of remedial attention by itself, with or without contamination in the lower reaches (i.e. Areas C & D).

Chapter 7

1. The amount of attention being paid to the Ecological Risk Assessment is minimal in comparison to the sampling being performed on other areas in the Phase 2 Work Plan. In reviewing the "Risk Assessment Guidance for Superfund, Volume II: Environmental Evaluation Manual" it is clear that more involvement with the Federal and State agencies should have been solicited for preparation of the Work Plan. Different interests in ecological information are present due to the various interested parties. Because of the nature of the site, the conclusions of the Phase 1 Report and the objectives of the Phase 2 Work Plan could be used to focus on additional data needs by the interested Federal and State agencies. A meeting with the respective agencies should be held to resolve any additional data requests and the overall project objectives, goals and schedule.
2. The Phase 1 Report documented that the environment is impacted by the PCB contamination. Additional fish sampling should be performed. The New York State Department of Environmental Conservation is prepared to perform the necessary sampling and analysis provided funding is provided for this task. State funding is uncertain; Since the EPA is using this important environmental data, we think it is appropriate that the fish sampling and analysis be funded by EPA while the Reassessment is proceeding.

Page 7-1, Just because different sources complicate a risk
par. 2, assessment, to preclude doing one for the lower river is contraindicated given the importance of this resource. On the top of p. 7-2, the authors should realize that the salinity factor is a non-issue since the fishery resource is still highly contaminated and an assessment is still possible.

DEC has discussed this chapter, among others, from the work plan with other agencies (state and federal) and has determined that we agree with their comments and in general support their concerns.

Page 7-3 To assist in the preliminary identification of
section important ecological receptors, a list of mostly
7.2, vertebrate species for consideration is appended to

these comments.

Chapter 8

1. Since this portion introduces upcoming feasibility assessments, it is not too early to begin developing remedial strategies and to present some thoughts for consideration. Some items were listed in the brief treatment of Chapter 8 such as isolation, stabilization, and/or capping in situ which may be acceptable if such solutions are truly permanent. If existing contaminated materials are largely behind the navigation dams and those dams will retain their integrity in perpetuity then they might be considered part of the remedial solution.

There is also the possibility of approaching the problem as different procedures for different configurations of contamination. For example, at the dam in Hudson Falls near Fenimore Bridge, any contaminated material might be removed and escapement more easily controlled compared to other locations downstream.

Therefore, dependent upon results obtained during the reassessment the river might be considered as several operable units with each having similar but yet unique characteristics which will enable the use of varied procedures to effect remediation.

Regardless of what remedial options are selected, long-term monitoring of the system is a must. Monitoring components should include in the design strong biological inputs, in particular, fish. The conduct of monitoring should occur, at a minimum over 30 years following completion of the remedial phases.

Finally, selection of a remedial alternative must recognize that it will have to achieve results at concentrations at least an order of magnitude lower than what current results from degradation and bioremediation studies indicate.

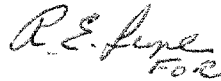
2. The development of alternatives for this project should begin now. Performing this task will keep the project on track to the scheduled December 1993 completion of the Feasibility Study. In addition, the public involvement should be solicited through the Community Interaction Program on the development of alternatives before the screening of alternatives. The development of the alternatives requires identifying remedial action objectives; identifying potential treatment, resource recovery, and containment technologies that will satisfy these objectives; screening the

technologies based on their effectiveness, implementability, and cost; and assembling technologies and their associated containment or disposal requirements into alternatives for the contaminated media at the site.

3. The chapter should include the tasks which will be performed for the Feasibility Study.
4. There is likely to be increased involvement by all interested parties in the Feasibility Study. Therefore, beginning the process now will allow EPA to involve the interested parties and accommodate their input into the process in a timely manner.

If you have any questions, please feel free to contact me at (518) 457-5677.

Sincerely,

A handwritten signature in cursive script, appearing to read "W.T. Ports".

William T. Ports, P.E.
Environmental Engineer 2
Bureau of Central Remedial Action
Div. of Hazardous Waste Remediation

Enclosure

cc: R. Montione - NYSDOH
J. Davis - NYSDOL

VERTEBRATE SPECIES FOR CONSIDERATION AS PART OF
THE ECOLOGICAL RISK ASSESSMENT (presented in no particular order)

Shortnose sturgeon	-	endangered species
Striped bass	-	of historical and current importance, aesthetically, recreationally and commercially
Blue crab	-	recreational and commercial importance
American eel	-	historical commercial value
Carp/goldfish	-	commercial value, ethnic importance
American shad	-	principal commercial species at present
Blueback herring	-	important forage species, potential commercial value
Alewife	-	similar to blueback herring; all herring species are going beyond Troy Dam to spawn
Smallmouth bass }	-	black bass species are of principal recreational value throughout freshwater portions of the Hudson River
Largemouth bass }		
Atlantic sturgeon	-	commercial and historical importance; population status unclear
White perch	-	important forage species; abundant; a key species in the fish community; of some commercial value
Northern pike (esocids in general)	-	major predator in system particularly important above the Troy Dam
Walleye	-	a principal gamefish in upper river
Yellow perch	-	major panfish in freshwater sections
Black crappie	-	becoming increasingly plentiful; important recreational species
Brown bullhead	-	exhibits significant pathological conditions in upper river (e.g. tumors, lesions); important recreational species
Atlantic tomcod	-	species at southern limit of its range; exhibits shortened lifespan and high incidence of hepatic carcinoma

White catfish	-	important recreational and commercial species in lower river
Bluefish (snapper sizes)	-	important visitant to lower river; potential strong recreational value
Zebra mussels	-	recent introduction; reputed to be efficient in accumulating xenobiotics
Bald eagle	-	potential for high bioaccumulation; endangered species; reported to be nesting near Cossackie
Great horned owl	-	reported experiencing lethal concentrations; high bioaccumulation
Mink	-	reproductively sensitive; populations may not be viable within several miles of the Hudson River
Osprey	-	another bird-of-prey; high bioaccumulation with potential for experiencing reproductive and toxicity effects
Snapping turtle	-	high bioaccumulation; health advisory in place; has commercial value
Canvasback	-	important waterfowl species; frequents Hudson River; high bioaccumulation; health advisory in place
Goldeneye	-	similar to Canvasback
Merganser species	-	most contaminated of the waterfowl
Mallard	-	more of a grazing habit; may escape much of the contamination, however, uses river and its marshes for feeding, breeding, resting
Canada goose	-	uses Hudson River extensively; similar to mallard, however, it feeds almost entirely upland

At the least, virtually all species may experience high bioaccumulation potential particularly in critical lifestages where aquatic resources supply energy/nutrient demands.