HUDSON RIVER PCB REASSESSMENT
COMMUNITY INTERACTION PROGRAM
SCIENTIFIC AND TECHNICAL COMMITTEE
FRIDAY, JULY 10, 1992
10:00AM
LATHAM, NEW YORK

MINUTES

On July 10, 1992, a meeting of the Hudson River Scientific and Technical Committee (STC) was held at 10:00 AM at the Holiday Inn in Latham, New York. The purpose of the meeting was to discuss major aspects of the Phase 2 Work Plan. The following participated in the meeting:

D. Abramowicz	General Electric
D. Aulenbach	R.P.I. (retired)
J. Bonner	TAMU, College Station, TX
R. Bopp	RPI
B. Bush	NYSDOH
J. Comeau	Aquatec, Inc.
J. Davis	N.Y. Attorney General's Office
A. DiBernardo	TAMS
J. Field	NOAA
W. Nicholson	Mt. Sinai School of Medicine
G. Putman	SUNY - Albany
F. Reilly, Jr.	AScI Corp/ACOE
G-Y. Rhee	NYSDOH
J. Sanders	Professor
J. Simpson	Lamont-Doherty G.O.
R. Sloan	NYSDEC
J. Szeligowski	TAMS
D. Tomchuk	USEPA

In addition, the following persons attended the meeting as observers.

J. Adams	Saratoga County EMC
B. Barclay	Sloop Clearwater
M. Behan	Behan Communications
K. Berger	NYSDEC
B. Bradley	Self
F. Csulak	NOAA
B. Gelber	Scenic Hudson
A. Glowka	PCB Settlement Committee
J. Haggard	General Electric
C. Lee	Scenic Hudson
R. Montione	NYSDOH
M. Pfeiffer	Poughkeepsie Journal
S. Powers	Albany County
A. Rychlenski	USEPA
L. Skinner	NYSDEC

Doug Tomchuk introduced Dr. William Nicholson of the Mt. Sinai School of Medicine, an expert on the health effects of PCBs, who will facilitate meetings of the Science and Technology Committee. Doug thanked Dan Abramowicz for his efforts as Chairperson. Bill Nicholson indicated that he will listen to all issues and concerns before he reports to the Oversight Committee. His approach will be to request that different Committee members prepare consensus recommendations when that is possible; alternatively, for some matters it may be useful to have majority and minority views. For the purposes of this particular meeting he recommended that the discussion follow the format of the Phase 2 Work Plan.

Low Resolution Sampling. The low resolution coring program was used by several Committee members as an example of insufficient specificity in the Sampling Plan. The number and location of these cores was not detailed in the Plan. After some discussion it was explained that the number of cores and their locations could best be defined after completion of the Phase 2 geophysical program which was well under way at the time of the meeting. An addendum to the Work Plan would be prepared detailing the number and location of such samples. The process of selecting the sites was near completion.

Sediment Critical Shear Stress. A question arose as to whether the critical shear stress laboratory analysis and the geophysical testing were in the nature of research. Jim Bonner stated concerns that the device described in the Work Plan to assess critical stress would induce non-uniform stress on the sediment sample and he recommended instead that an annular flume geometry be adopted for the experimental effort. In reply it was stated that undisturbed samples would be used for the analysis and that this approach would render a doughnut configuration impractical.

Loadings From Area B to Area C. The treatment of Study Areas C and D received greatest attention at the meeting. Questions raised included the level of detail to which Areas C and D will be analyzed in comparison to Area B and the results which could be expected from the work proposed in the tidal Hudson. Also, Committee members focused on the need to obtain water column samples in the tidal river including samples from CSOs and tributaries.

Both EPA and TAMS responded to questions related to the Areas C and D program. Doug Tomchuk indicated that USEPA is now proposing to obtain Area D sewage effluent, CSO, and tributary samples and analyze them for PCBs with methods suitable for purposes of this reassessment. The samples will be obtained by the Agency's Water Division and are expected to be analyzed in sufficient time to include the data in the Phase 2 report. The Reassessment can utilize this data for evaluating the relative importance of upper River discharges to the tidal Hudson.

It was explained that the level of effort proposed for Areas C and D is less than that which will occur within Area B during Phase 2. One reason for the difference in scale of activity is the fact that remediation will be limited to PCBs within the upper Hudson. Thus the first question to be addressed (for the lower River) is the relative importance of PCB discharges from Area B to the resources of Areas C and D. Once a determination has been made as to the relative importance of ongoing PCB discharges to the lower River it will be

possible to assess, in general terms, what the benefits of remediating those releases will be.

Several Committee members requested information on the application of high resolution cores to the analysis of PCB problems in the lower River. Jim Simpson and Richard Bopp described in considerable detail their historic research on the use of high resolution cores to establish sediment histories at particular locations and to extrapolate the high resolution information to conditions in the overall estuary. The technique of radio-dating sediment cores was discussed whereby the presence of radioactive cesium from weapons testing in the 1960s as well as from Indian Point Power Plant discharges in the 1970s can serve as a mechanism for estimating time of material deposition. The dated sediment cores provide an integrated sediment history at the sampling locations and, in the aggregate, throughout the region. High resolution cores provide a more efficient method for obtaining data for an estimate of relative PCB contributions than a "brute force" approach of many low resolution samples. It was also mentioned that by applying partition concepts to data from the high resolution cores it would be possible to generate an estimate of water column PCB concentrations that at least competes in quality with the results of direct water column sampling and analyses.

A number of specifics concerning sedimentology in the lower Hudson were described by Jim Simpson and Richard Bopp. Richard Bopp mentioned that while bio-turbation occurs in San Francisco sediments down to a depth of about 20 cm and in Long Island Sound down to 10-15 cm, in the Hudson bio-turbation is about 1-2 cm deep. It would not be possible to generate the radio-profiles found in Hudson cores if bio-turbation were significant. Jim Simpson mentioned in response to a question that most Hudson cores do not show the presence of cesium. These are areas where no net deposition of sediment occurs. It would be inappropriate to conclude that no PCB had been present in the water column above these locations, however. The transport of fine sediments is homogenized over relatively large distances by the estuary's hydraulic forces. PCBs are remarkably constant, for instance, from the GW Bridge down to the Battery. What has been found is that 5% of the system's surface is efficient as a particle trap, 25% is moderately efficient, and 65% does not collect particles at all on a net basis. One does not find big differences in activity concentrations between areas accreting sediments at the rate of 10 cm/yr versus those accumulating sediments at 1 cm/yr.

Richard Bopp discussed one core taken at River Mile 188.5 which demonstrated a fully intact cesium profile. He also had data from several cores which had been driven to sufficient depth to identify the cesium peak. Sites where these cores had been extracted will be revisited during the Phase 2 program. There are locations in the upper River which have been depositional for the past 40 years, even during the post dam removal flood events. Jim Simpson mentioned that in his view only a small part of the upper Hudson would prove to be depositional with deposition occurring principally behind dams and other obvious depositional zones.

Preservation Of Sediment Records. John Sanders provided a thorough briefing on his past sediment collection efforts and emphasized the need to preserve a record of the stratigraphy of various sediment cores collected during Phase 2. He showed and discussed a relief peel he has preserved from a sample collected by

box coring in the vicinity of Hot Spot #5. He urged that cores be x-rayed to preserve their sedimentological record if it proved too difficult to construct and preserve relief peels. There were also a number of questions concerning preservation of samples. Preservation of samples is treated in the Sampling and Analysis Plan/Quality Assurance Project Plan. Dan Abramowicz mentioned that John Brown has collected hundreds of cores which show an intact sediment record.

Transect Sampling. A comment was made that the time of flight water column sampling will be expensive and it probably would not be possible to follow a parcel of water. Several Committee members recommended use of rhodamine dye as a tracer provided NYSDEC would approve its use. Ron Sloan commented that NYSDEC had used dye in the past and that the dye probably would not be lost at the Hudson River dams. He suggested going beyond Green Island Dam during the study. Al DiBernardo stated that we would reconsider the use of dye as a tracer. It was mentioned that the transect sampling team would be deployable on one to two days notice.

Analytical Methods. Joe Comeau of Aquatec, the firm performing the congener-specific PCB analysis, briefly described his company's plans for conducting the laboratory analysis using GC methods with electron capture detection. He will be using a two-column system and requested information on types of columns commercially available. Both Dr. Rhee and Dan Abramowicz offered suggestions based on their experiences.

PCB Transformations. G-Yull Rhee stated that he thought the sentence on Work Plan pages 5-7 and 5-8 was of particular significance since it suggested that comparisons of archived cores and new cores may not provide an adequate basis for extrapolating PCB transformations into the future. For instance, in the process of dechlorination other transformations also may occur which limit additional biological activity. In effect, as dechlorination continues there is an increase in recalcitrants. Dr. Rhee also offered the opinion that some of the products of PCB dechlorination may be toxic themselves.

Conclusions. Bill Nicholson summarized the various suggestions made during the meeting for Committee recommendations:

- review the core preservation question raised by John Sanders;
- request a summary from Dr. Rhee regarding his concerns about analytical methods and about PCB transformation end points;
- hold a Committee meeting to discuss the remainder of the Work Plan and the low resolution sampling program details;
- consider expanding the Area C Work Plan to include water column sampling;
- perform grain size analysis on suspended sediments;
- consider alternative experimental procedures for assessing shear stress as per Jim Bonner;

- obtain an additional high resolution sample below Battenkill as per George Putnam;

- use rhodamine tracer as part of time of travel water column sampling.

The meeting adjourned at approximately 5 PM.