

**EPA-GE Citizen Coordinating Council
March 6, 2007
Great Barrington, MA**

DRAFT Meeting Highlights

Participants: Over forty-five people attended the meeting. A list of participants is attached.

Introduction: Suzanne Orenstein, Facilitator, and Dean Tagliaferro, EPA Project Manager, opened the meeting with a round of introductions and a review of the agenda. They noted that this meeting would focus on the Rest of River Corrective Measures Study (CMS) proposal recently submitted to EPA by GE.

Presentation of the CMS Proposal by GE

Andy Silfer, GE Project Manager presented an overview of the Rest of River remediation process, and Stuart Messur of Arcadis-BBL and Jim Rhea of QEA, consultants to GE, presented an overview of the proposed corrective measures study. The slides used in their presentations are posted on the EPA web site at www.epa.gov/ne/ge by clicking on the "Meetings & Events" button and going to the March 6, 2007 CCC meeting.

Mr. Silfer reviewed the history of the GE cleanup, beginning with the signing of the Consent Decree in 2000, which established a process for development of the remediation plan for the Rest of the River.¹ The process outlined in the Consent Decree has been proceeding for several years. It included an ecological risk assessment, a human health risk assessment, and the development of a mathematical model of the river that can be used to evaluate how various remediation options would address the human health and ecological interim media protection goals approved by EPA. These elements of the process are completed. The next phase of the process was GE's submittal of the Corrective Measures Study Proposal (the subject of this evening's meeting), and GE's subsequent submittal of the Corrective Measures Study that outlines the evaluation of multiple alternatives and identifies GE's proposed remedy for the Rest of River. Following the approval of the CMS, EPA will propose a cleanup decision for public comment after considering GE's proposed remedy.

Mr. Silfer then reviewed the characteristics of the river from Pittsfield to Rising Pond dam just north of Great Barrington, MA. He noted that monitoring data collected south of Rising Pond dam indicated average concentrations of PCBs lower than the majority of the human health and ecological cleanup goals.

Mr. Messur reviewed the specific elements of the corrective measures study proposal. He noted that the CMS proposal is the workplan for the evaluation of various alternatives for in-river sediment, bank sediment, floodplain soil, and handling removed sediment and floodplain soil. The Proposal screens technologies to determine those that will be considered in detail in the Corrective Measures Study.

¹ The Rest of River area includes the Housatonic River below the Confluence of the East and West Branches. Two miles immediately upstream on the East Branch have been remediated.

The in-place sediment options retained in the Proposal for further consideration include no action (as required by the EPA Superfund program), institutional and engineering controls, monitored natural recovery (MNR), removal and replacement of sediment, in-situ containment with engineered barriers, capping, and rechannelization. Options for floodplain soils that will be further evaluated include no action, engineering and institutional controls, monitored natural recovery, removal and replacement of sediments and in-situ containment with soil covers and engineered barriers. The options that will be evaluated for managing removed sediment/soil include dewatering; treatment including ex-situ stabilization/solidification, chemical extraction, and thermal desorption; and disposal in a confined disposal facility in water, an upland disposal facility, and off-site permitted landfills.

These methods were arrayed in eight sediment alternative remediation scenarios and 7 floodplain soil alternative scenarios that include combinations of remediation options, with variations from a no action alternative to extensive removal of sediment and floodplain soil above Rising Pond.

These scenarios will be evaluated on the following *General Standards*:

1. Overall protection of human health and the environment
2. Control of sources of releases
3. Compliance with substantive federal and state regulatory requirements

The remedy selection will also consider six *Selection Decision Factors*:

1. Long-term reliability and effectiveness
2. Attainment of the IMPGs
3. Reduction of toxicity, mobility or volume
4. Short-term effectiveness
5. Implementability
6. Cost

The process for evaluating the alternatives includes the use of the model to predict future sediment and biota PCB concentrations for each sediment remedial alternative, detailed evaluations of sediment/riverbank soil, floodplain and sediment/soil management alternatives, comparative evaluations of alternatives to each other, and development of recommended remedial alternatives for sediment and riverbank soil, floodplain soil, and sediment and soil management. The CMS report is due 180 days after EPA approves the CMS proposal (or later if EPA agrees to an extension).

Susan Svirsky, EPA Project Manager for the Rest of River, made several comments about the CMS process. She noted that EPA is not required by the Consent Decree, CERCLA, or the Resource Conservation and Recovery Act (RCRA), to have a public comment period on the IMPG Proposal, the CMS Proposal, or the CMS report. However, the Region offered the opportunity for an informal public input process for the CMS Proposal, as it did for the IMPG proposal, and will also do for the CMS report. Written comments submitted during this informal process will be placed in the administrative record. In addition to these three informal public comment efforts, she is personally willing to meet with any individual to walk through the document and explain it and answer any questions.

Susan also clarified some information about the fish IMPGs, addressing a question about why fish could have up to 55 ppm of PCB to address ecological risk, but fish consumed by humans was required to meet a 2 ppm standard. She explained that the ecological risk assessment and the human health risk assessments were parallel documents, and that the fish IMPG was based on the ability of fish to successfully reproduce and maintain a local population, separate from the human health implications of consuming fish, which would result in a much lower PCB concentration in fish tissue. She acknowledged that there are varying degrees of risk, which were evaluated in the risk assessments, and that the IMPGs are a direct backcalculation from the risk assessments. She further noted that an IMPG was established for the various risk levels and risk pathways, creating a sometimes complicated set of endpoints for GE and EPA to address.

Questions and Comments from CCC Members

Question: How did you arrive at the PCB levels for the various areas of the river?

Answer: We averaged the data in the reach and looked at the general trends. While there is variability within a section of the river, the averages and trends are the basis for the determinations.

Question: What other fish tissue concentrations, particularly in CT, did you measure? Did you just sample filets, or were some samples for whole fish?

Answer: We sampled small mouth bass and brown trout from catch and release areas. We also have data on pike and other fish species. We have both whole body and fillet data available for consideration in the evaluation of different alternatives.

Comment: There are PCBs at the dam sites in CT that we are concerned about. The PCB fish advisories still exist, indicating the problem is there. The averages hide the fact that PCBs behind the dams contribute to PCBs in fish in CT.

Comment: For CT data, would prefer to see carp data. Pike is not as likely to be contaminated as carp.

Comment: What is strikingly missing from the tables and charts is any information about the human health considerations and effects caused by PCBs. The health effects at various concentrations and other ancillary issues have been shifting and changing not for the better. Assumptions and studies point to the fact that PCBs are more of a problem now than 15 years ago, and that smaller and smaller amounts are having a significant effect. We need to consider where this process is taking the river. We have human, animal and environmental populations being affected in a profound and unquantifiable way. The decisions being reached will be of national, and perhaps, global significance.

Question: Is there information on restoration in the CMS? Would like to see the vision of what the eventual state of the remediated sites would be. There is a real connection between the alternatives and what will be left after the remediation.

Answer: We typically try to mimic or improve the existing conditions when the area is restored.

Comment: There are some softer bioengineered structures that may be

available and that will be as effective as armoring.

Comment: Using the oxbows as disposal areas is not acceptable. Also, clean material on top of contaminated soil is not recovery. It is just covering up. Capping is also just covering up contamination, not taking it out of the environment. Covering up contamination is not enough.

Comment: The model does not seem reliable for predicting what will actually occur if an alternative is selected. It may be useful for comparing alternatives to each other, but perhaps it will not even be useful for that.

Comment: The IMPGs are confusing and the goals they set are not high enough. They are really EPA allowable concentrations, and they will not get us to a less contaminated environment.

Comment: The lack of alternative remediation technologies is disappointing, though it is good that thermal desorption is included. It will not be possible to excavate in some flood plain areas because endangered species are there. We need some eco-imagination and a technology that destroys the PCBs in situ for the flood plain areas.

Comment: CT should not be written off in the CMS.

Comment: We do not want a dump for the PCBs from any of these remediation options.

Comment and Questions: We need GE and EPA to come up with a different, larger vision, and develop a model for other contaminated sediment sites. Could we slow down for a year or two to get more final solutions for the contamination? If citizen groups can find \$20 million for alternative technologies, would GE take it and try a more visionary approach?

Question: We need more final solutions that don't just move contamination from one place to another. How long can monitoring really be protective?

Answer: Monitoring will continue as long as it is needed.

Question: Do the IMPGs account for the total body burden of wildlife. We know that contaminants in combinations can cause more serious problems than one alone.

Answer: The Ecological Risk Assessment evaluated all contaminants, not just PCBs. The risk assessments are posted on EPA's web site for reference.

Question: What if nothing that is tried works? How can the public interact with EPA and GE during the implementation phase?

Answer: If there is a substantial change to the final remedy, EPA would revisit the remedy and go through a public comment process on any changes.

Question: What can we do to get in situ technologies to be included in the remedy?

Answer: EPA has reviewed the National Academy of Science (NAS) report on PCB – Contaminated Sediment and the EPA 2005 guidance on this topic. Neither NAS nor EPA endorses most of the in situ technologies for PCBs because they have not been shown to be effective. The proposed plan for the Rest of River will go before EPA's National Remedy Review Board, which looks at consistency with EPA guidance of the remedies across the country. The Board also looks at the demonstration of long-term

effectiveness of the remedy and wise expenditures of funds. To review EPA's position on in-situ technologies, go to the EPA web site for the Contaminated Sediment Guidance at <http://epa.gov/superfund/resources/sediment/guidance.htm>.

Question: What is the source control plan, given the scope of the site and other initiatives? Upstream source control will effect downstream remedies.

Answer: There are a number of source control projects under way. There is a 20 year program to deal with NAPL. There are DNAPL wells and soil removal actions at the GE facility per the Consent Decree. Groundwater monitoring is also underway, as well as treatment to enhance LNAPL recovery. One area in the West Branch will be subject to a removal. The CMS proposal summarizes the source control activities.

Question: What is the time frame for determining whether the corrective measures are effective?

Answer: The model will simulate a 52-year period for each alternative (which represents two 26-year cycles of the hydrograph used by EPA for Model Validation, or at a minimum 30 years following completion of an alternative. The active remediation may take from 10 to 20 years.

Question: When would the shovel go in the ground for this project?

Answer: The implementation schedule for the remedy will depend on what legal challenges it is subject to. The EPA proposed clean up decision is projected to be out for public comment in April or May of 2008.

Comment: For the past two years, the facilitator has repeatedly cut off one member of the CCC during the discussions. That should not be happening.

Response: Facilitator agreed to be more careful not to do that.

Comments from Peter DeFur, Technical Consultant to Housatonic River Initiative.

Mr. DeFur noted that he is a consultant on several contaminated sediment sites throughout the US. He was asked by HRI to evaluate the CMS proposal, and agreed to attend the meeting and provide his initial comments. He noted that he had only four days to review the document after it was released on Feb. 27, and will have additional comments after he has reviewed the document in more detail.

He made the following observations and comments about the CMS proposal.

- Overall, he found the document not extensive or comprehensive enough in several areas.
- It does not include innovative technologies and methods to the extent they should be considered. This may be, to some extent, the result of the CERCLA/RCRA framework, which, unlike the Clean Water Act, is not a technology-forcing statute.
- It ignores CT, and mentions CT laws and regulations only once in the entire document, when it references CT water quality standards that must be considered when the river enters CT.
- Data seems insufficient to effectively characterize the sediment behind the dams below Rising Pond.

- The remediation methods proposed are the standard methods EPA uses on other contaminated sediment sites around the country. The document does not provide a comprehensive overview of information from past applications of these methods, and it should.
- MNR did not work in the Hudson River, and now the Hudson will be undergoing sediment removal. It also did not work after 30 years in the James River in VA.
- He objects to the appendix that discounts the accepted method for protecting wildlife used internationally and by other agencies, specifically the U.S. Fish and Wildlife Service. That method allows special consideration of chemicals that act through common mechanisms, like dioxin, furans, and PCBs. GE should not reject a method that has been recognized internationally.
- Institutional controls mostly involve fish consumption advisories, which don't work. People continue fishing and eating the fish in spite of the advisories.
- The expected lifetime for PCBs in the Housatonic environment is not addressed. How long are they expected to be present in the sediment after remediation?
- Capping is not a proven technology. It has only recently been tried in the Spokane River and the Fox River. Capping seems to work better in marine environments than in riverine environments where there is scouring.

Public Comment

Israel Fitch of Cornwall Bridge made the comments that there are always fish in oxbows, so they should not be used for disposal. He also noted the need for additional studies of fish in CT. Last year the Falls Village dam was excavated, and sediment layers were exposed. Did anyone use that opportunity to sample that sediment? (EPA reported that CT DEP had Northeast Utilities sample there at that time.) Also, if landfills are created for the disposal of the contaminated material, who pays for monitoring them? (Response: GE pays, if it is required.) Finally, crayfish and crab should be evaluated for contamination. (EPA reported that crayfish were sampled in MA as part of the ecological risk assessment.)

Donald Roeder asked what will happen if the CMS methods don't work. EPA responded that the remedy will include a monitoring plan, and if the goals are not achieved, the remedy would be reviewed and could be revised.

Updates on Other Remediation Activities

Dean Tagliaferro, EPA Project Manager for the Housatonic Remediation, provided the following updates about work in the Pittsfield area.

- For the 1 ½ Mile project, tree planting, maintenance, and removal of the fence at Fred Garner Park will proceed this spring. The park will be returned to the city of Pittsfield at that point.
- GE will do some minor excavation of two properties in the flood plain adjacent to the 1 ½ Mile site adjacent to Deming Street, between Elm Street and Dawes Avenue.
- GE will undertake some maintenance of the Half Mile project, removing some soil and using rip rap to remedy effects from recent flooding.

- The Lyman St. II site remediation will be completed with excavation and capping of a part of the area used by EPA and GE for staging during last year's remediation.
- At the East Street Area 2-North Site, near Building 100 on GE property, will be the removal of approximately 1000 cubic yards of contaminated soil.
- Work will continue at the On Plant Consolidation Areas (OPCAs). The final cap for Building 71 was installed last fall, and drainage work remains to be done. Hill 78 is at 85% capacity, and capping of portions of it will begin this year.
- GE will replace a storm drain and a sanitary sewer drain within the OPCAs. They will be moved outside of the footprint of the landfill. The design has started, and the hope is that the work will be completed this year.
- It is time for the five-year monitoring process for the Half Mile project. GE will start field work for that, including 39 sampling sites for the sediment on the rip rap. EPA is considering the same protocol for sampling the sediment in the Mile and a Half, to establish a baseline prior to the required five-year monitoring effort for that project. The protocol includes locations that were determined in the Consent Decree, and some samples will be split.
- Unkamet Brook and three other remediation projects are in the planning stages, but will not be ready for remediation this year.

Next Meeting

The next meeting of the CCC will be in June. It will focus on restoration methods.

The meeting adjourned at 8:30 PM.

**EPA-GE Housatonic Project Citizens Coordinating Council
Attendance 3-6-07**

Name	Organization	Attended
Members		
Thelma Barzottini	Citizens for PCB Removal	X
Barbara Cianfarini	Citizens for PCB Removal	X
Michael Carroll	GE	X
Jeff Cook	Downtown Pittsfield	
Shep Evans	Hous. Valley Association	X
Dick Ferren	Lenox Conservation Com.	
Lynn Fowler	Housatonic River Commiss.	X
Benno Friedman	Sheffield	X
Deborah Garry	Lee Conservation Com.	X
Stephan Green	So.Berk. Ch. Of Commerce	X
Tim Gray	Hous. River Initiative	X
Judy Herkimer	Hous. Env. Action League	X
Tom Hickey	PEDA-City of Pittsfield	
Charles Kilson	Schaghticoke Tribal Nation	
Paul Knauth	Crane, Inc.	
Rene Laubach	MA Audubon	X
John Lippman	Grt.Barrington Conserv.Com	
Andrew Madden	MA Dept. for Fish & Wildlife	X
Jim McGrath	Pittsfield Parks Dept.	
Dan McGuinness	NW CT Council of Govts.	
Susan Peterson	CT DEP	
Dennis Regan	Housatonic Valley Assoc.	X
Andy Silber	GE	X
Susan Steenstrup	MA DEP	X
Susan Svirsky	U.S. EPA	X
Anna Symington	MA DEP	X
Dean Tagliaferro	U.S EPA	X
Sherry White	Mohican Nation	
Jane Winn	Berk. Envir. Action Team	X
Dale Young	MA Natural Res. Trustees	X
Alternates		
Angela Bonarrigo	U.S. EPA	X
Audrey Cole	HEAL	
Tim Conway	U.S. EPA	
Dick Gates	GE	X
Dave Gibbs	Housatonic River Initiative	X
Elaine Hines	Grt. Barrington Con. Com	x
Bruce Philbrick	Sheffield	
Caprice Shaw	Housatonic Valley Assoc.	
Carolyn Sibner	Housatonic Valley Assoc.	
J.Connell	S.Berk. Chamber of Comm.	X
Michael Makes	Pittsfield Cons. Comm.	X

Additional Attendees

Bob Cianciarulo	U.S. EPA	X
Charlie Cianfarini	Citizens for PCB Removal	X
Scott Campbell	Westons Solutions	X
Jack Dew	Berkshire Eagle	X
Rod McLaren	GE	X
K. Mitkevicius	U.S. Army COE	
Dave Peterson	US EPA	
Jane Rothchild	MA DEP	X
Ken Munney	US FWS	X
Tad Ames	Berkshire Natl.Res.Council	X
Dana Ohman	MA Fish & Wildlife	X
Marilyn Reisch	GE	X
Kathy Kessler	Berksh. Env. Action Team	X
Tim Moore	Maxymillian Technologies	X
John Anthony	Maxymillian Technolgies	X
Donald Roeder	Hous. River Initiative	
Joel Lindsay	Weston Solutions	X
Ray Goff	U.S. Army COE	X
Sean McKenney	MCLA-Env. Studies	X
Izabela Zapisek	Weston Solutions	X
	WAMC	X
	WBCR	X
	Channel 9	X