Brookhaven's Peconic River On-Site Cleanup

Public comment invited; comment period runs from Sept. 22 to Oct. 21, 2003

This fact sheet summarizes a document available for public review and comment.

Information sessions:

October 7, 2003, 7-9 p.m.
Cornell Cooperative Extension
Griffing Avenue, Riverhead

October 15, 2003, 7-9 p.m.
Berkner Hall, BNL

All are welcome; an RSVP to Kathy Gurski at (631) 344-4748 would be appreciated.

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Field engineers collecting Peconic River samples

I. Introduction

The U.S. Department of Energy (DOE) and Brookhaven National Laboratory (BNL) have developed a cleanup plan for portions of the Peconic River on Laboratory property. DOE worked closely with the U.S. Environmental Protection Agency (EPA), New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), and the Suffolk County Department of Health Services (SCDHS) to develop the recommended alternative.

An on-site section of the Peconic River successfully excavated and replanted in a 2002 pilot study

DOE and BNL are asking community members for their comments regarding this sediment cleanup plan. Detailed information about this cleanup is contained in an Engineering Evaluation/Cost Analysis (EE/CA) and Action Memorandum available in the libraries listed on the back page and at http://www.bnl.gov/erd. This fact sheet summarizes the information presented in that document.

The public is encouraged to review the EE/CA and Action Memorandum and to submit comments during the formal public comment period, which runs from September 22 to October 21, 2003. Dates and times of informational meetings can be found in the left column.

Additional areas of the river downstream of Laboratory property will also be cleaned up. Plans for that cleanup will be available for public review and comment in coming months.

II. Background

BNL has operated its sewage treatment plant since the Lab was established in 1947. Regulations governing the plant have become more stringent through the years, and BNL has periodically upgraded the plant to comply with changing regulations and increase the removal of pollutants. Wastewater from Laboratory operations is processed and treated at the plant before being discharged into the Peconic River on BNL property. The discharged water is currently monitored at the discharge point and several upstream and downstream locations. However, historical operations and disposal practices resulted in the discharge into the Peconic River of wastewater containing chemical and radiological contaminants, which were then deposited in sediment.

Over the past several years, DOE and BNL have conducted numerous investigations of the Peconic River sediment, fish, and plants. Sampling indicates that there are elevated levels of mercury in sedi-

ment on and just downstream of the Laboratory property. Low levels of heavy metals, polychlorinated biphenyls (PCBs), pesticides, and radionuclides were co-located with the mercury in Peconic River sediment. Elevated levels of mercury and PCBs have also been detected in fish. NYSDOH evaluated the fish samples and determined that consumption within the state guidelines for freshwater fish is acceptable.

Based on the available information and considerable input from regulatory agencies and many community members, the DOE and BNL plan to remove the contaminated sediment to protect the ecosystem and to reduce the potential for off-site migration of contaminants. A map showing the areas where the removal of sediment is planned is provided on page three.

Information about the history of the OUV project can be found at http://www.bnl.gov/peconic.html, and in the libraries listed on the back page.

III. Why Cleanup is Recommended

Sediment removal will reduce levels of mercury in the river (and, therefore, in fish) and further assure protection of human health. In addition, contaminant removal will reduce the effects on organisms living in the sediment.

IV. Alternatives Evaluated

In conducting cleanup, DOE and BNL are required to follow the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), also known as "Superfund." CERCLA requires that the cleanup option selected be protective of human health and the environment. Other considerations include cost and long-term effectiveness.

The alternatives described in the EE/CA-Action Memorandum are summarized below. The first is a "No Action" Alternative as required by CERCLA. Alternatives Two, Three, and Four all require the removal of various amounts of sediment using low-impact, conventional and specialized construction and sediment removal equipment. Removed sediment would be shipped off site to an appropriate disposal facility. River wetlands that are disrupted by the sediment removal process would be restored as needed.

Working group tours sediment trap used to prevent sediment migration during work

The three sediment removal alternatives are expected to protect human health and the environment by reducing, by varying amounts, bioaccumulation of contaminants in fish and toxicity to aquatic life. The three sediment removal alternatives would also require the construction of haul roads; the amount of construction would depend on the alternative. All of these alternatives include long-term monitoring of surface water, sediment, and fish to evaluate cleanup effectiveness.

Alternative One: The No Action Alternative involves no removal of contaminants. Surface water, fish, and sediment would continue to be monitored under this alternative. The No Action Alternative serves as the baseline against which the other alternatives are evaluated. Long-term monitoring would cost approximately $138,000 over the next five years. This alternative was not recommended because it leaves a continuing source for bioaccumulation of mercury in fish and the possibility of continued transport of contaminants to downstream areas.

Alternative Two: This alternative represents the most aggressive approach and would remove all sediment from the Sewage Treatment Plant to the Laboratory boundary.

The estimated cost of this alternative is $9,600,000. It would result in a greater than 95 percent reduction of mercury. Co-located contaminants would also be removed. This alternative was not selected due to its excessive environmental impact for a limited incremental gain in effectiveness.

Alternative Three: This alternative represents a minimum cleanup level that seeks to achieve protection of the ecosystem and also minimize disturbance to the

Alternative	Cost ($ Million)	Percent mercury removal	Wetland disrupted (acres, approximate)	Sediment removed (cubic yards, approximate)	Haul roads to be constructed (linear feet, approximate)
One	.1	0	0	0	0
Two	9.6	95	12.0	14,500	7,200
Three	5.6	85	6.6	8,000	4,200
Four	7.9	95	10.0	12,100	4,200

wetland. It requires the removal of sediment from areas that contain mercury concentrations greater than 9.8 parts per million (ppm). The cleanup concentration level for this alternative was based on Peconic River toxicity studies of organisms in the sediment. The 9.8 ppm value was based on levels that would protect the aquatic organisms in the sediment.

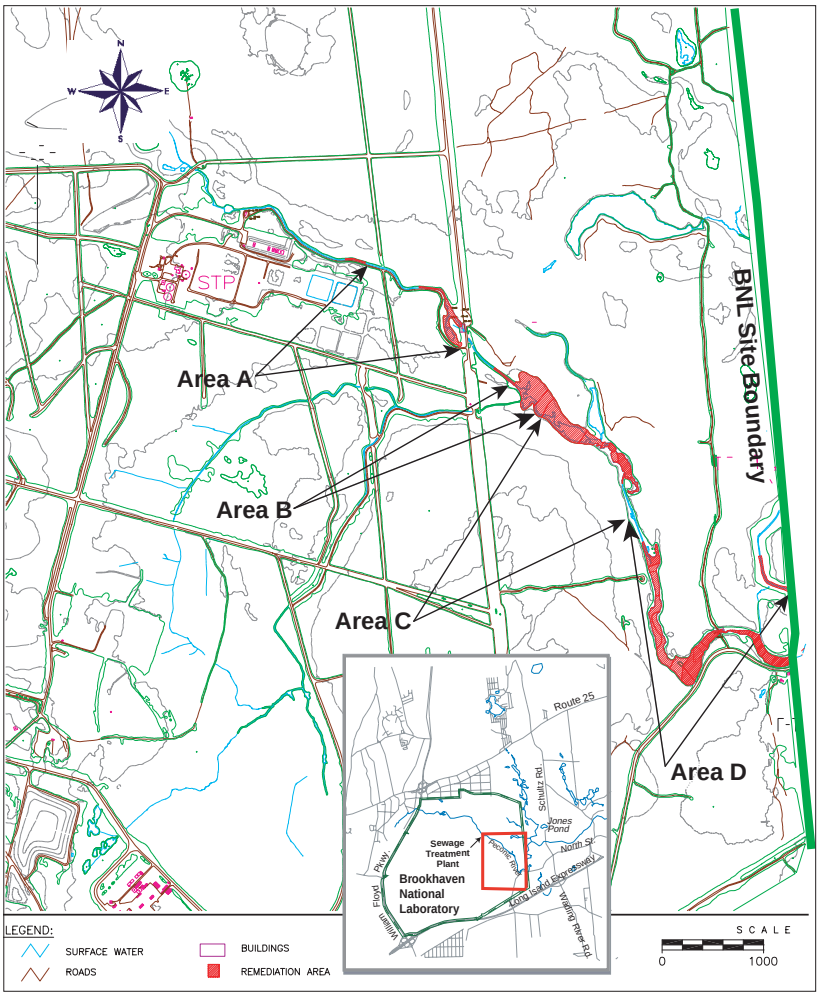
If selected, this alternative would cost approximately $5,600,000. It would result in an estimated 85 percent reduction of mercury. Co-located contaminants would also be removed. This alternative was not selected because of its potential to leave sediment above cleanup goals in the depositional areas.

Alternative Four: This alternative would remove nearly all of the sediment contained within the depositional areas on site. These areas are identified as Areas A, B, C, and D on the accompanying map. Field screening and sampling to be conducted prior to cleanup would help define the amounts of sediment to be removed from these areas. This alternative is designed to achieve an average mercury level on site of less than 1 ppm following cleanup, with a goal of all samples being under 2 ppm in excavated areas. This alternative is meant to achieve an average value similar to Alternative Two. The 2 ppm level for excavated areas is based upon an EPA and NYSDEC guidance for the protection of groundwater.

This alternative would cost approximately $7,900,000. It would result in an estimated 95 percent reduction of mercury. Co-located contaminants would also be removed.

V. Recommended Alternative

DOE worked closely with EPA, NYSDEC, NYSDOH, and the SCDHS to develop the recommended alternative. DOE and BNL agree that Alternative Four best addresses the CERCLA evaluation criteria, particularly "Overall Protection of Human Health and the Environment", while still meeting community expectations to minimize impacts to the wetlands. Although Alternative Two would remove slightly more contamination than Alternative Four, Alternative Two would require the construction of an additional half-mile of access road. This would increase the disruption to both upland and wetland areas. Alternative Three would leave some wetland areas and potential fish habitats with elevated levels of mercury. This could allow mercury to continue to accumulate in fish.



The Peconic River from the Sewage Treament Plant to the Laboratory's boundary.

VI. Community Role in Selection Process

The DOE and BNL encourage public input to ensure that the cleanup decision for the Peconic River sediment recognize community expectations and is protective of human health and the environment. Already, the community has had an integral role in shaping the cleanup alternatives described in the EE/CA-Action Memorandum.

Interested community members are invited to either or both of two information sessions to speak with project personnel and learn more about the proposed cleanup.

The first meeting will be held from 7 to 9 p.m. on October 7 at Cornell Cooperative Extension on Griffing Avenue in Riverhead. The second meeting will be October 15 from 7 to 9 p.m. in Berkner Hall at Brookhaven National Laboratory. An RSVP to Kathy Gurski at (631) 344-4748 would be appreciated.

Formal written comments will be accepted for a period of 30 days, from September 22, 2003 through October 21, 2003. Written comments should be sent to:

Michael D. Holland, Manager
U.S. Department of Energy, Brookhaven Area Office
Attn: Peconic River
P.O. Box 5000
Upton, NY 11973-5000

Upon completion of the public comment period, a responsiveness summary will be written and made available in the libraries listed below. The responsiveness summary will include the DOE response to public comments and identify any changes that may have occurred as a result of those comments. After considering public comments, the DOE will make a decision on the cleanup remedy for the Peconic River sediment on Laboratory property.

While this cleanup action will start this year, it will only be considered as final when it is presented again with the cleanup plan for the portions of the river off of Laboratory property. Following the public comment period for that plan, a final decision will be documented in a Record of Decision (ROD). In order to become final, the ROD must be agreed to by DOE, EPA, and NYSDEC.

VII. Administrative Record Locations

All Administrative Record documents can be found at the libraries listed below. Recent documents may also be found on BNL's Peconic River web site at http://www.bnl.gov/erd/peconic.html

Review the complete Operable Unit V Peconic River Engineering Evaluation/Cost Analysis-Action Memorandum at the following libraries:

Longwood Public Library
800 Middle Country Rd
Middle Island, NY
(631) 924-6400

BNL Research Library
Building 477A
Upton, NY
(631) 344-3483

Mastics-Moriches-Shirley Public Library
301 William Floyd Parkway
Shirley, NY
(631) 399-1511

U.S. EPA, Region II Library
290 Broadway
New York, NY
(212) 637-4296

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