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Brookhaven's Sewage Treatment Plant Cleanup

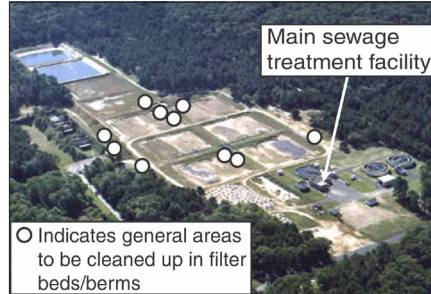
As a result of the effects of past operations, Brookhaven National Laboratory is now working to clean up portions of its sewage treatment plant. From the 1940s through the 1980s, Laboratory disposal practices resulted in

some chemicals being processed by the sewage treatment plant and becoming trapped in the plant's sand filter beds. In addition, maintenance scraping of the plant's sand filter beds has contaminated sections of adjacent berm areas. Over the years, regulations have changed, and the Laboratory has revised its processes to maintain compliance with these new regulations. However, the sand filter beds and berms remain contaminated from these past practices.

Per an agreement with state and federal regulatory agencies, and with input from the Suffolk County Department of Health Services, the Laboratory will clean up the sand filter beds and berms of the treatment plant to meet established standards. The Laboratory will achieve this goal by removing soils and sending them to a licensed disposal facility. A document detailing the cleanup agreement, known as the Operable Unit V Record of Decision, can be found in local libraries (see back page for locations) and is also available at <http://www.bnl.gov/erd/peconic/docs.html>.

This fact sheet summarizes the cleanup work planned and the precautions that will be taken to ensure worker and public safety and protect the environment.

Sewage Treatment Plant: Background
Brookhaven's sewage treatment plant was built in stages by the U.S. Army between



Aerial photo of the Laboratory's sewage treatment plant, showing beds and berms slated for cleanup.

1940 and 1944, and was first upgraded by the Laboratory in 1967. Further upgrades, initiated in 1997, elevated the plant from primary (one-stage) to tertiary (three-stage) treatment. The treatment process now includes

nitrogen and organic material removal and ultraviolet disinfection (replacing chlorine treatment). Today, the sewage treatment plant is considered a state-of-the-art facility. Plant discharges are regulated by the NY State Department of Environmental Conservation, and are routinely monitored for compliance.

The sand filter beds are located east of the main sewage treatment facility (see photo). Wastewater is filtered through the sand filter beds prior to release.

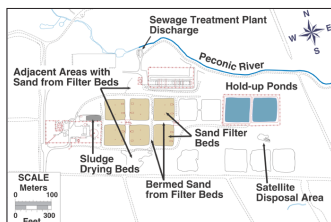
Elevated mercury levels have been identified in several sand filter bed locations. Elevated levels of cesium-137 are found in a few isolated areas, primarily in the sand filter berms and other berms approximately 30 feet from the filter beds. The contamination is concentrated in the top six inches of soil. Other co-located contaminants will also be removed as part of this cleanup.

Cleanup Process

The project will focus on the removal of soils containing mercury and cesium-137 at concentrations above U.S. Environmental Protection Agency- and New York State-approved levels. Workers will use bulldozers and excavators to remove the contaminated soil. The soil will then be packaged and transported by railcar or truck to an off-site, licensed, disposal facility.

Contact Info:

Ken White
Community Relations
631 344-4423
kwwhite@bnl.gov



Schematic showing the layout of the sewage treatment plant. The tan areas are the sand filter beds.

Safety Assurance

Work planning and control processes at the Laboratory will ensure the health and safety of employees and the public during cleanup activities. These plans, which will guide all aspects of the project, undergo a rigorous review by Laboratory staff and regulatory agencies before work is allowed to begin.

Controlling dust is an important consideration for this project. Dust control will be emphasized during the excavation process, and will include misting the excavation area with water and suspending work during high winds as necessary. Air monitoring, using portable and stationary air-sampling pumps, will be conducted to verify the effectiveness of these precautions.

Other Safety Precautions

Worker safety is a top priority. All Laboratory employees and contractors receive general safety training. Where appropriate, employees and contractors also receive project-specific training. Workers are required to comply with all health and safety plan requirements to assure their protection. Additionally, all workers have "stop work" authority if they observe any unsafe conditions that present imminent danger such as personal injury, environmental damage, or economic loss.

Timetable

Work is scheduled to begin in mid-June. All soils should be excavated, and confirmatory sampling completed, by the beginning of August.

Review the complete Operable Unit V Sewage Treatment Plant Record of Decision 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

For more information, contact:

Ken White
Community Relations
631 344-4423, kwwhite@bnl.gov

