



Shining a New Light on an Old Light Source EPA and Community Work Together



EPA excavates thorium-contaminated soil from the yard of a home.

Welsbach

Having radiation contamination in their backyard is trying enough for the citizens of two towns in New Jersey, but living a normal life through a cleanup should not be as difficult. The U.S. Environmental Protection Agency (EPA) is working with the residents of Camden and Gloucester City, NJ, to minimize the disruption of day-to-day life that could occur because of the environmental cleanup of their Superfund site. EPA has even developed work plans around the schedules of the citizens.

The contaminated property is located in residential and commercial areas in the New Jersey towns. "Our work is done so as to minimize the disturbance to neighbors, and the affected properties are restored quickly and professionally," said Carole Petersen, Chief of the New Jersey Remediation Branch with EPA Region 2.

Welsbach & General Gas Mantle Site

At the turn of the of the 20th century, Camden and Gloucester City, NJ, were the center of incandescent gas mantle manufacturing in the United States. Long before electricity became the primary U.S. power source, it was estimated that Americans used 40 million mantles per year to light gas lamps in homes, offices, and streetlights. The Welsbach Company and the General Gas Mantle Company were involved in the production of gas mantles from the late 1890s to 1941, sometimes producing as many as 250,000 per day.

To make their gas lamps glow brighter, the companies utilized a thorium extract as a constituent to coat each cloth mantle, which burned in the flame of the gas lamps. Unfortunately, thorium is a radionuclide that emits alpha, beta, and gamma radiation during its radioactive decay, and has a half life of 14 billion years. Anyone who is directly exposed to radiation, or inadvertently ingests radioactive particles may suffer adverse health effects in the form of an increased risk of certain types of cancer.

When the two New Jersey companies went out of business in the mid-1940s, they left a legacy of soil contaminated by thorium and other radioactive materials. Since 1941, the ownership of the properties have changed hands. New businesses moved in to take over the land and buildings. The former Welsbach facility is now an active port area along the Delaware River.

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JUST THE FACTS:

- In 2001 and 2002, \$17 million has been funded for the cleanup of Gloucester City and Camden, NJ.
- Since 2000, EPA has invested \$20.9 million in clean up costs for the Welsbach & General Gas Mantle site.
- EPA is currently cleaning 14 residential properties, a swim club, and two County roads in Gloucester City, NJ.

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Cleanup of the Radiation

In the early 1990s, the New Jersey Department of Environmental Protection (NJDEP) conducted an investigation for radiological contamination of over 1,100 properties in Gloucester City and Camden, NJ. About 100 properties are contaminated at different degrees. Moving quickly to provide a solution for the most contaminated properties and to safeguard human health, NJDEP took measures that included placing gamma radiation shielding on 30 properties and installing radon/thoron ventilating systems on three properties. The state also purchased one contaminated residential property and relocated one commercial business. As a result of the NJDEP investigation and in partnership with EPA, the Welsbach & General Gas Mantle Co. properties were placed on Superfund's National Priority List on June 16, 1996.

In August 1996, EPA initiated a remedial investigation and feasibility study (RI/FS) to determine the nature and extent of contamination throughout the site, and the risks posed by the site. Based on the radiologically-contaminated soil and waste materials found on both residential and industrial properties in Camden and Gloucester City, EPA plans to excavate the contaminated soil and dispose of it off-site. EPA also has identified more than 800 properties in Camden and Gloucester City where they will conduct additional sampling to make sure no contamination is overlooked. EPA estimates the entire cleanup of the Welsbach & General Gas Mantle site will take approximately five years to complete.

EPA Working with the Community

To date, EPA has begun the first phase of the soil cleanup on 14 residential homes, a private swim club, and a County road. Because the work is so close to the homes, in some cases literally in their back yards, and intersects with daily lives of the residents, EPA has invested a lot of time working with the community to lessen the impact of the cleanup.

In full cooperation with the residents of properties requiring clean up, EPA has had to temporarily relocate twelve families and permanently relocate one other. "In most cases, the owners and/or residents of uncontaminated properties in the vicinity have been able to continue using their properties with little or no interruption prior to, during, or after the work," Petersen explained.

EPA has been able to perform the cleanup in a densely populated, residential community with minimal interruption of the day-to-day life of the majority of its residences and businesses. This has been accomplished because EPA listened to the community's concerns during public meetings and responded.

In particular, there were community concerns in the spring about the cleanup around the local pool in Gloucester City. To accommodate the summer swimming schedule, EPA modified its schedule to enable the Swim Club to operate during the popular months.

Welsbach Gas Lamp and Mantles

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Visit the EPA Region 2 web site at:
<http://www.epa.gov/region2/Superfund>

