Corps and EPA remediate New Jersey site

By Joanne Castagna

In 1996, a tenant of a 27,000-square-foot residential building in Hoboken, N.J. observed droplets of an odd substance dripping from the ceiling onto the countertop of their apartment. State health officials were notified and responded. They discovered mercury, a human toxin, underneath the building's wooden floorboards, absorbed in the walls and mercury vapor in the air. Urinalysis testing was conducted for the residents. The results showed unacceptable levels of mercury in some children who were living in the building. The building was proclaimed an imminent public health hazard.

At the request of the EPA, New York District oversaw the clean up designed by a General Electric contractor, Blaslund, Bouck, and Lee, Inc., and carried out by BBL's contractor, Sabre Demolition, Inc.

Approximately 40,000 residents live within a one-mile radius of the building and a high school nearby. The structure includes a five-story building and an attached four-story brick townhouse.

From 1910 to 1965 the building served as a mercury manufacturing facility for General Electric Company. For 55 years the industrial building produced mercury vapor lamps and mercury connector switches.

In the early to mid '90s the five-story building was converted into 16 residential apartments and artist studios. After the mercury was discovered in the mid-'90s, the U.S. Environmental Protection Agency investigated and decided that the site needed to be remediated. This included demolition of the building, soil sampling, excavation, and off-site disposal of materials.

GE was required under administrative order to perform the remediation.

The Corps and EPA relocated 16 families and 20 businesses from the area. The government bought out their property and eventually provided alternate permanent residences.

"Remediation of the building involved disassembling it by hand and demolishing the brick walls using jack hammers. The building's windows were removed and the brick surfaces beneath them inspected for mercury contamination. The floor was removed one bay at a time and inspected for mercury. The concrete slab and subsurface piping was removed and mercury contamination was removed from the surrounding soil," said Neil Ravensbergen, project engineer.

Photos: Neil Ravensbergen

Scaffolding was installed around the structure and covered with shrink wrap to keep dust from migrating offsite.

Workers removed the flooring and inspected for mercury contamination.

Remediation
(cont'd)

While remediation was ongoing, measures were taken to protect the surrounding population from mercury contamination. Measures included setting up an air handling system to filter out mercury vapor; surrounding the building with scaffolding and covering it with shrink wrap to eliminate dust migration; placing sidewalk closings, a perimeter fence, and concrete barriers around the site; monitoring the air for contaminants and noise during the work day; and establishing a water treatment plant to process water that came in contact with mercury-contaminated materials.

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The non-hazardous solid waste and asbestos-containing material that was removed during remediation was transported to waste management facilities in New Jersey and Pennsylvania and mercury-containing debris was shipped to hazardous waste landfills in New York and Alabama. Elemental mercury was recycled.

"So far the project has been successful. The residents are happy and we have made significant progress on the remediation of the site and restoration is imminent. We are continuing to sample and remediate the soil at the site and in neighboring yards. The project is estimated to be completed by Spring 2004," said Ravensbergen.

The project's success is a result of teamwork between the various agencies, "As a team we developed an understanding of each other's concerns and needs and worked together with the EPA and GE to resolve issues and manage the work and provide a safe work environment," said Ravensbergen.

"Our working relationship has been excellent. The Corps' staff, when reporting any problems, always suggests technically-feasible and sound solutions," said Jon Gorin, remedial project manager, EPA Region II. "Also, over the years, I've found that the engineers from the Corps have a good sense of when an issue is important, and when it is something relatively minor. I've not always found that to be the case when working with oversight staff from private firms."

"I have worked at several Superfund sites and this has been a real success in terms of removing a serious health hazard to the public," added Ravensbergen. "Not only was this building not structurally sound, but the mercury contamination was overwhelming and truly a health hazard to anyone on or around it. It's a shame to loose a piece of history but it was a benefit to the overall environment."