MDE

Maryland Department of the Environment

FACTS ABOUT:

ALLIED CHEMICAL CHROME PLANT
EXELON HQ BUILDING, BALTIMORE CITY

BACKGROUND:

A. Site Description – The former Baltimore Chromium Works Facility site was first used for production of chromium chemicals in the mid-nineteenth century. The site consisted of ~20 acres of water-front property located near Fells Point in Baltimore MD. Allied Chemicals ("Allied"), now Honeywell, acquired the facility in 1954. Environmental investigations conducted by the company during the 1980s indicated that approximately 62 pounds per day of chromium were migrating from the facility to the offsite environment, largely to groundwater and the Patapsco River ("River").

B. Consent Decree – In 1989 MDE and EPA ("Agencies"), and Allied entered into a Consent Decree that required the company to fully investigate the impacts of contaminant releases and to propose remedial measures. The Consent Decree anticipated future reuse and redevelopment of the site. Once the Agencies had assessed and approved the investigation reports and remedial proposal, the company proceeded to implement the authorized remedy. The Consent Decree specified that the remedy attain two performance standards – a surface water standard and a groundwater gradient standard. The surface water standard required that the concentration of total dissolved chromium be reduced to 50 ppb in the River. The groundwater gradient standard required that the groundwater level inside the barrier be 0.01' lower than the water level outside the containment structure, based on hourly measurements averaged over a thirty day period.

C. Facility Dismantlement – In 1990, Allied began dismantling the existing onsite buildings, and constructed a stone embankment around the three sides of the site that border the River to support failing bulkheads. Chromium contaminated hazardous wastes generated at the site were transported to the Hawkins Point hazardous waste landfill in Baltimore MD. Harbor sediment materials dredged during the construction of the embankment were disposed at Hart-Miller Island.

REMEDIAL MEASURES:

D. Remedial Measures – Along the perimeter of the ~ 20 acre section of the property that was most contaminated, and that is designated as "Area 1", Allied constructed a three foot wide bentonite slurry wall that functions as a hydraulic barrier to minimize groundwater flow offsite. The wall extends to depths of greater than 70' in some places and is keyed into bedrock. Observed concentrations of chromium in the river have decreased from preconstruction values of up to 2,000 ppb to less than 15 ppb. A five foot thick cap was constructed over the area inside the slurry wall; the cap consists of a stone capillary break, geotextile, geosynthetic clay layer, geomembrane, synthetic drainage composite layer, visual warning layer, and a clean soil layer. A crushed stone layer was later added to the cover system. The cap was completed in 1999, has prevented surface releases of chromium from the facility, and minimizes infiltration through the surface into the subgrade and groundwater. On less contaminated properties located to the east of the former plant that the company had acquired, and are now designated as "Area 2/3", a layered soil cap was constructed. Demolition of existing buildings and remedy construction required over 10 years to complete at the cost of greater than $100,000,000.

E. Effect of Remedial Measures - Site groundwater contaminant concentrations and head levels are monitored in accordance with an Agencies approved environmental media monitoring plan. The overall result based on data provided by the company in quarterly reports indicates that the remedy is functioning as designed. The Consent Decree specifies that the property owner (now Honeywell) will be perpetually responsible for maintaining and monitoring the remedial components and environmental media.

Remedial Action Activities

1. Construction of Stone Embankment

2. Construction of Slurry Wall

3. Head Maintenance System Component Installation

4. Cap Construction

SITE DEVELOPMENT:

F. Site Development Requirements – Prior to any development on the property, conceptual and detailed design plans must be approved by the Agencies. The Agencies would approve of redevelopment only if they find that redevelopment would not interfere with the corrective measures or the monitoring of the corrective measures, and that increased risks to human health and/or the environment would not result from construction and post-construction activities.

G. Site Development - The part of the facility developed first is designated as Area 2/3, and is outside the slurry wall and multilayer cap. This Area was less contaminated than the main site and so the remedial measure in place is a layered soil cap. The first redevelopment activity on site was construction of the Morgan-Stanley building, which went into operation in May 2010. Currently, Beatty Development has proposed to begin redevelopment of Area 1 by constructing the Exelon headquarters building. The current project proposes to build a multistory office building and parking facility; the size of development project entails that it be supported by piles driven through the cap. The Agencies have approved a conceptual design plan that was submitted by Beatty last year. The Consent Decree also requires that a detailed development plan be submitted to the Agencies so that they may assure that the proposed design will not adversely impact site corrective measures. The Agencies will conduct a rigorous and thorough review of the design, and if the design meets all requirements established by the Consent Decree and applicable laws and regulations, the Agencies will provide approval to the developer. It is expected that, upon receipt of approval by the Agencies, Beatty will proceed to construct the proposed buildings.

Questions can be directed to the Solid Waste Program at 410-537-3315.