Maryland Department of the Environment

FACTS ABOUT:

Former GE Power Systems Apparatus Service Center (Voluntary Cleanup Program)

Site Location

This 2.4581-acres site (Site) consists of four parcels of land located at 900-920 East Fort Avenue in a mixed-use commercial, residential, and light industrial area south of the Inner Harbor in the City of Baltimore. A convenience store and retail gasoline service station, located on an area formerly occupied by a bulk oil storage terminal, occupies the property to the north of the Site. The property is approximately 12 feet higher in elevation than the adjacent property to the north, and a concrete wall separates the properties. Key Highway is located to the east, approximately 30 feet lower in elevation than the property. East Fort Avenue is located to the south and Lawrence Street and two restaurants are located to the west. The property and vicinity receive public water and sanitary sewer facilities. However, all utility connections to the property have been disconnected and removed. The Site is presently vacant, and covered with gravel and asphalt.

Storm drains are located along East Fort Avenue and precipitation falling onto the property flows into the storm drains or percolates into the surface material. Surface and subsurface material is generally classified as fill that occurs up to 16 feet in depth. However, silts, clays, and sands of the Patapsco Formation characterize some areas of the subsurface. Dense clays and silts of the Arundel Formation underlie the fill and the Patapsco Formation across the entire property.

Perched groundwater occurs in isolated lenses across the property, and the Arundel Formation serves as a local confining layer to deep groundwater, which is encountered at approximately 30 feet below grade. The property is approximately 500 to 1,000 feet south of the northwest portion of the Baltimore Harbor. No public or private water supply wells exist within a 0.5-mile radius of the property.

Site History

From 1946 until 1993, GE Power Systems Apparatus Service Center occupied portions of the property. During these years, GE serviced and maintained various sizes of electrical transformers, electrical motors, and turbine engines. Most of the equipment arrived on-site via rail car or truck.

The four parcels comprising the property have individual ownership histories. The parcels are addressed as 900 East Fort Avenue, 918 East Fort Avenue, 920 East Fort Avenue, and

a non-addressed parcel that was formerly owned by CSX Transportation Company (CSX). The ownership history of each parcel is described below.

900, 918 East Fort Avenue parcels:
In June 1907, Torsch Packing Company sold both parcels to a private party. These parcels were owned by various private parties until GE purchased them in September 1976. Between 1970 and 1954, a retail gasoline service station operated on the 900 East Fort Avenue parcel. Historic records show that animal matter and fertilizer manufacturing operations occupied the 918 East Fort Avenue parcel from circa 1890 until the 1930s. M.F.G. Metal Products occupied the 918 East Fort Avenue parcel circa 1951 followed by a wholesale glass manufacturing operation, circa 1971.

920 East Fort Avenue parcel:
Before GE began operations in the 1940s on this parcel, the Baltimore City land records do not identify any previous owners for the property. Animal matter and fertilizer manufacturing operations also occupied the 920 East Fort Avenue parcel from circa 1890 until the 1930s. A brick, concrete block, and steel building which occupied a 37,000 square feet footprint was constructed in the 1930s, shortly before GE purchased the parcel. By 1979, the GE Apparatus Service Center was the only operation present on all four parcels.

Non-addressed parcel:
Since 1946, GE had leased the parcel from CSX to enable rail access to the Apparatus Service Shop. GE purchased this parcel from CSX in 1988.

Environmental Investigations

Environmental investigations of the GE property conducted in 1988, 1989, and 1998 documented the detection of polychlorinated biphenyls (PCBs), volatile organic compounds, polycyclic aromatic hydrocarbons, and metals contamination in the soil, metals and volatile organic compounds in the groundwater, the removal of approximately 4,000 tons of PCB-contaminated soil, and the removal of three underground storage tanks (USTs) that formerly contained used PCB-oil. During the March 1988 – May 1989 removal effort, all identified soil with levels of PCBs greater than 25 parts per million (ppm) were removed. A June 1994 sampling event recorded PCB levels no greater than 9.2 ppm. Subsequent environmental site assessments (ESAs) and extensive soil removal actions resulted in the reduction of most contaminant levels to generally meet the Department's criteria for future residential use.

A February 2002 Phase I ESA recommended a site-wide subsurface investigation of the property, due to suspected up-gradient influence from a dry cleaner (no evidence of contamination was found), a former on-site gasoline station (three USTs were removed),

documented spills of petroleum product(s), floor drains within an on-site building, and the on-site utilization of various chemicals such as PCB-containing oil, thinners, cleaning solvents, varnishes, and petroleum products. In October 2002, recommendations set forth in the February 2002 Phase I ESA were implemented, which included soil and groundwater sampling, installation of groundwater monitoring wells, and measuring groundwater levels. Major findings of the October 2002 site assessment included determination of shallow groundwater at generally 5 to 8 feet below grade, and deeper groundwater was detected within a dense clay layer at approximately 28 feet below grade. PCBs, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and certain metals (arsenic, chromium, copper, and mercury) were detected at levels that exceeded the Department's future commercial use screening criteria. Elevated levels of solvent and fuel related VOCs that exceeded the Department's commercial use criteria were detected in certain groundwater samples. Nickel exceeded the commercial criteria in the dissolved (i.e. filtered) groundwater samples, and certain other metals slightly exceeded the criteria, or were detected in laboratory blanks or unfiltered groundwater samples.

From October 2002 to April 2003, on-site abatement and restoration activities were performed. After demolition of the apparatus service shop, PCB and VOC contaminated soil was removed from beneath and around the former shop area and from areas located along the northern property boundary. Other identified areas of soil containing VOCs, SVOCs, metals, and PCBs at levels that exceeded the Department's commercial standards were removed, except for one relatively small area located along the northern property boundary where VOCs contamination required further delineation. The depths of soil excavations ranged from one foot to several feet in the northern and northwestern areas, and approximately 18 feet in areas along the northern property boundary. All excavations were backfilled with approved soil material that generally satisfied the Department's criteria for residential future use.

A Phase I ESA Update was performed in November 2003. Based on a review of previously collected data, this review concluded that the soils identified in the February 2002 ESA report with levels of PCBs, VOCs, SVOCs, and metals that exceeded the Department's criteria for commercial use were successfully remediated during implementation of the October 2002 to April 2003 abatement and restoration activities, except for the aforementioned small area along the northern property boundary (refer to paragraph above).

In February 2004, an additional site assessment was performed to further characterize baseline conditions across the property and to further evaluate and characterize the extent of residual VOC contamination along the northern property boundary. The assessment included a direct-push investigation, installation of additional groundwater monitoring wells, and soil and groundwater sampling. The February 2004 site assessment determined

that trichloroethene (TCE) and TCE degradation products were detected in groundwater at levels exceeding the Department's commercial criteria.

The Department requested supplemental information in April 2004. The applicant performed additional groundwater and soil sampling during September 2005, July 2006, and March 2007. Laboratory analytical results of these samples suggested that anaerobic biodegradation of chlorinated solvents is occurring, and that elevated levels of chlorinated solvents (TCE and associated degradation products) exists in the groundwater along the northern property boundary.

Three historic underground storage tanks (USTs) that were presumably associated with the historic on-site gasoline service station were detected in the landscaped area along the perimeter fence on the south side of the property, adjacent to East Fort Avenue. Under supervision of the Department's Oil Control Program, UST removal activities occurred during October 2007, and waste removal activities were satisfactorily completed during December 2007.

During July 2011 and August 2011, soil vapor testing was performed in certain areas along the northern property boundary and the northwest portion of the property. Elevated levels of soil vapors derived from PCE, TCE, various degradation products, and various petroleum-based compounds confirmed that a soil vapor mitigation system will be required across the property.

In March 2007, the Department performed a data and toxicological screening evaluation based on a residential future land use. The screening was based on fixed laboratory analytical results for VOCs, SVOCs, PCBs, metals, and select pesticides in the groundwater, and for VOCs, SVOCs, PCBs, metals, total petroleum hydrocarbon-diesel range organics (DRO), and select pesticides in the soil. Maximum contaminant levels in groundwater, surface soil, and subsurface soil were compared to the "MDE Soil and Groundwater Cleanup Standards, August 2001 – Interim Final Guidance, Update No. 1". Results of the screening evaluation indicated that at least one or more sub-groups comprising a residential population (i.e. child resident, youth resident, adult resident, construction worker), may be adversely affected by elevated risk due to contact with subsurface soil (e.g. ingestion, inhalation of volatiles and fugitive dust) and/or groundwater (e.g. ingestion, dermal contact).

Note that since this toxicological evaluation was performed, the Department has adapted revised cleanup standards which are generally more restrictive than the August 2001 standards (refer to "State of Maryland, Department of the Environment, Cleanup Standards for Soil and Groundwater, June 2008-Interim Final Guidance, Update No. 2.1).

Based on the results of the toxicological data and screening evaluation, the Department will require that future development of the property will include an environmental cap (e.g. clean-fill landscape, concrete, asphalt) and a subsurface soil vapor mitigation system.

Current Status

On November 18, 2003, GE Power Systems Inspections & Repair Services submitted a VCP application for the 900, 918, 920 East Fort Avenue and the non-addressed former CSX parcel seeking a No Further Requirements Determination as a responsible person. GE submitted a revised application on April 2, 2007 that indicated their intent to change the future property use from commercial (Tier 2B) to residential (Tier 1B). After reviewing the submitted data, the Department accepted the property into the VCP on June 22, 2007 and determined that a response action plan (RAP) must be prepared, submitted to the Department for review and approval, and implemented so as to mitigate the potential on-site environmental risk to a future residential population. The Department received a draft RAP on August 28, 2007, and a public informational meeting was held on September 27, 2007. On May 20, 2008, the Department approved the April 14, 2008 revised RAP, based on the future use of the property for residential purposes.

900 East Fort Avenue LLC subsequently purchased the property and submitted an application to the VCP which was received on November 8, 2011. 900 East Fort Avenue performed confirmatory environmental testing, and on January 3, 2012 the Department accepted certain revisions, referenced as Addendum #1, to the existing approved RAP. The Department confirmed the acceptance of the RAP and RAP Addendum #1 on January 13, 2012.