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REPORT SECTION FOR SUBSTATION NUMBER 2 AND OLD POWER PLANT ROOSEVELT
ROADS NAVAL ACTIVITY PUERTO RICO
7/25/1993
VERSAR, INC.

SUBSTATION NO. 2, ROOSEVELT ROADS
(Site No. 15)

From 1964 to the present, Roosevelt Roads maintained and repaired transformers at Substation No. 2, Building 90 (Site 15). As part of maintenance of the transformers, the transformer oil was drained to facilitate repair to the inner cores and coils. During 1964 to 1979, it was routine practice to drain or pour the transformer oil onto the ground at the work location. It is estimated that a maximum of 3,000 gallons of PCB-contaminated transformer oil was disposed of on the ground at the site during that period of time. Contamination migration from Site 15 could potentially occur by surface runoff and soil erosion through two drainage ditches. Surface runoff would occur from the series of drainage ditches which empty into the Vieques Passage, or into the mangroves that fringe Ensenada Honda and Puerca Bay.

During the Preliminary Assessment/Site Investigation in the early 1980s, thirty-six soil samples were collected from 33 hand augured soil borings at Site 15. Soil samples were collected from the surface to a depth of 1 foot below land surface in all but two of the borings which were extended deeper. The soil samples were analyzed for PCBs. The highest concentrations were found around Building 90 and in the drainage ditch along Valley Forge Road. Two samples from the fenced-in storage yard were <1 ppm. The preliminary results indicated that more extensive sampling for PCBs was required and that a full Remedial Investigation, Feasibility Study (RI/FS) was warranted.

The 1990 RI determined that sediment and soil surrounding the immediate area of Substation No. 2 and the transformer pads is contaminated with PCBs at concentrations exceeding EPA cleanup standards. The depth of soil contamination is at least 1 foot; however, the presence of coral at a depth of 1 foot prevents deeper sampling at this time. This RI/FS focus on the soil/sediment operable unit. Any potential contamination of coral, ground-water or surface water pathways are to be evaluated during the initial soil removal action proposed in the RI/FS report. An estimated 235 cubic yards of soil/sediment require remediation.

The FS for Site 15 identified three viable remedial alternatives: Alternative A - soil excavation, shipment, and off-site incineration; Alternative B - soil excavation, shipment, and off-site landfill; and Alternative C - soil excavation, and on-site incineration. Other alternatives were eliminated from consideration for the following reasons: technology not proven at or near full scale; technology not feasible; technology not applicable, not demonstrated, or not commercially available for testing or destroying PCB solid waste; or technology potentially applicable, but requires and successful laboratory or pilot field tests to demonstrate viability.

The remedial technology recommended for Site 15 is Alternative B - soil excavation, shipment, and off-site landfill. This process option was selected based on probable achievement of the nine CERCLA criteria for selecting remedial alternatives. The cost for this alternative at this site is estimated to be \$426,621.

OLD POWER PLANT, ROOSEVELT ROADS
(Site No. 16)

The Old Power Plant, Building 38, at Roosevelt Roads (Site 16), was a 60-megawatt steam turbine facility that generated power from the early 1940s through 1949. The plant used Bunker "C" fuel, which was stored in two 50,000-gallon reinforced concrete tanks located directly northeast of the building. During heavy rainfalls in the 1970s, C fuel was observed in manholes near the building and discharged to an adjacent beach (i.e., Enlisted Beach) via the old cooling water outlet for the Power Plant. A cleanup contractor was hired twice to drain the underground fuel tanks and cleanup the spill. This area, where the USTs located, is now paved over with concrete.

From 1956 to 1964, transformer maintenance was performed at Site 16. The majority of transformer repair work was conducted just outside of the building at its northeast corner. Transformer oil was drained to facilitate repair of the inner cores and coils. Transformers were drained to the soil in the immediate vicinity of the building. The only exception to this practice was with Askarel (a type of PCB) transformers. Employees drained transformers containing Askarel directly to 55-gallon drums, which were disposed of at the station landfill. Approximately 1,600 gallons of transformer oil were drained to the soil in the vicinity of the building, with some portion going to the landfill. Contaminant migration from Site 16 could potentially occur by surface runoff and soil erosion through a concrete-lined drainage ditch that leads to a storm drain. Manways to the USTs and cooling water tunnel that may have been used for disposing of PCB-contaminated fluids. Surface runoff would occur from the series of drainage ditches between the power plant and the hillside that empty into Vieques Passage, or into the mangroves that fringe Ensenada Honda and Puerca Bay.

During the Preliminary Assessment/Site Investigation in the early 1980s, thirty-eight soil samples were collected from the site. These samples were analyzed for PCBs, oil and grease, volatile organic compounds (VOC), ethylene dibromide (EDB), xylenes, methyl ethyl ketone (MEK), and methyl isobutyl ketone (MIBK), and EP toxicity test for lead. The analytical results indicated the presence of PCB and lead contamination at the site. Lead concentrations were less than the EP toxicity standard for lead. Other constituents detected (but not at levels of concern) were MEK and oil and grease. These preliminary results indicated more extensive sampling for PCBs was required, and that a full Remedial Investigation/Feasibility study (RI/FS) was warranted.

The 1990 RI determined that concrete surfaces, and sediment and soil surrounding the immediate area of the Old Power Plant, and the transformer pads is contaminated with PCBs at concentrations exceeding EPA cleanup standards. Additionally, surface water and other samples collected from the cooling water tunnel and underground storage tank (UST) manways clearly indicate that these areas are extensively contaminated with PCBs and require further investigation. The depth of soil contamination is at least 1 foot; however, the presence of coral at a depth of 1 foot



prevents deeper sampling at this time. This RI/FS focused on the soil/sediment operable unit. Any potential contamination of coral, ground-water or surface water pathways are to be further evaluated during the initial soil removal action proposed in the RI/FS report. An estimated 986 cubic yards of soil/sediment require remediation; 20,000 square feet of concrete require remediation.

The FS for Site 16 identified three viable remedial alternatives: Alternative A - soil excavation, shipment, and off-site incineration; Alternative B - soil excavation, shipment, and off-site landfill; and Alternative C - soil excavation, and on-site incineration. Other alternatives were eliminated from consideration for the following reasons: technology not proven at or near full scale; technology not feasible; technology not applicable, not demonstrated, or not commercially available for testing or destroying PCB solid waste; or technology potentially applicable, but requires and successful laboratory or pilot field tests to demonstrate viability.

The remedial technology recommended for Site 16 is Alternative B - soil excavation, shipment, and off-site landfill. This process option was selected based on probable achievement of the nine CERCLA criteria for selecting remedial alternatives. The cost for this alternative at this site is estimated to be \$1,785,219.

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