

Case Study

Temporary Storage of Phenol-Contaminated Storm Water

Overview

After heavy rainfall and a series of small spills overwhelmed their wastewater retention basins, this plastics manufacturer called on Clean Harbors to help them avoid the illegal run-off of Phenol-contaminated waste water. Clean Harbors constructed two Mod-U-Tanks on-site and transferred the contaminated wastewater for storage, allowing facility managers to make needed repairs and feed the wastewater back to their own treatment system.



Background

As a global leader in polymer chemistry, this company produces monomers utilized in polymerization processes for thermoplastics resins. One of the raw materials used in the manufacturing process is Phenol. Phenol, also known as carboic acid, is an aromatic organic compound that today is produced on a large scale from petroleum. It is an important industrial commodity when converted to plastics or related materials, but requires careful handling due to its corrosive effects on eyes, skin, and the respiratory tract.

Challenge

Typically, this client stores excess wastewater and treats it in their on-site Wastewater Treatment Plant (WWTP) when capacity becomes available. However, heavy rains and a series of small spills had filled all of the available retention basins with large volumes of storm water—estimated at 2.3 million gallons—that contained unusually high concentrations of Phenol. Forecasts for additional rain posed the very real possibility that the contaminated storm water would over-run storage capacity and spill onto the property, resulting in a major violation of their discharge permit, as well as significant state and federal fines.



Approach

After an initial conference call and on-site meeting, the Clean Harbors team proposed three alternative paths to resolution:

- 1) Off-site disposal, 2) Treating the entire volume of contaminated wastewater on site, and 3) Temporary storage, which was the least expensive option and returned the full capacity of the storm water basins to the plastics manufacturer in the shortest time.

The client selected the third approach and contracted Clean Harbors to construct two 500,000 gallon Mod-U-Tanks on-site and transfer the contaminated wastewater from the storm water system for storage. This option was offered by the Clean Harbors team because the company's greatest issue was storage, as well as the need to make repairs to evident leaks. While it didn't remove the contaminated water from the site and took longer than on-site treatment would have, ultimately, it was the most cost-effective solution and fully operational in 30 days.



Results

Removing the water from the storm water basins to temporary holding tanks gave the client sufficient time to address crucial maintenance issues and return the permanent basins to full operation without incident. The company began feeding the wastewater back to their treatment system after a period of four months, saving approximately \$2M as compared to other treatment options. Clean Harbors mobilized to the site to decontaminate the liners and other appurtenances, dispose of the liners and padding, disassemble, and remove the tanks. The company did not receive a Notice of Violation in connection with the incident, and no further site contamination occurred. Not taking action could have resulted in a facility shutdown in the event of continued inclement weather.

About Clean Harbors

We are experts in employing best practices and cost-effective techniques for environmentally sensitive issues. As the single point of contact, Clean Harbors delivers end-to-end solutions from a broad network of recycling, transportation and disposal facilities professionals. Our staff of experienced filtration media and chemical treatment specialists, civil engineers, geologists, licensed wastewater operators and scientists work together to offer multiple resolution options that best fit our clients' needs.

For more information about Clean Harbors services, visit www.cleanharbors.com/chemical or call 855.525.2542.

