



**Diverse Environmental
Solutions**



Electric Utility Saves on Secondary Containment O&M Costs with High-Flow Oil Water Filtration System

Basic Concepts (BCI) Develops Advanced Oil Water Separator for Substations

Background:

An electric utility in metropolitan New York City utilizes concrete secondary containment moats in substations throughout its vast network. Following storms with heavy rain fall, the moats filled with large volumes of water. This water needed to be evacuated. Strict SPCC guidelines and state and city regulations require discharged water to be completely free of hydrocarbon contamination.

The utility implemented a gravity-flow filtration system like an oil-water separator, but its flow rate of 3 to 7 gallons per minute was very low. During heavy rainfalls, the filtration system and pump could not keep up with the rain fall. Standing water collected within their substation containment areas and required manual pumping. Additional labor and manpower increased operation and maintenance (O&M) costs for the utility.

Objective:

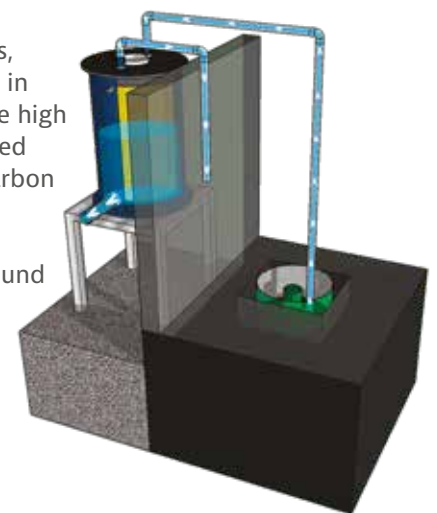
The electric utility wanted a solution to prevent standing water in the moats and eliminate the high O&M cost. They preferred an automatic pumping system with high flow rates. It was important for the system to be simple to maintain, able to filter hydrocarbons to a non-detectable level, and provide complete shut off in the event of an oil release.

Solution:

BCI developed an innovative, low-maintenance oil water filtration system designed to deliver the highest flow rates in the industry. The VIPOR-100 SOWF (Sump Oil Water Filtration) system incorporates the same filtration concepts as the HFF Oil Stop Valve. Enclosed within a fiberglass housing, it uses a heavy duty ½ horsepower pump. The system's flow rate exceeds 100 gallons per minute.

The VIPOR-100 is a very low maintenance system. The unit features an access port in the lid to service the pre-filter sock in the throat of the oil/water filter, which requires periodic flushing. A VSF (Vault Sump Filter) pre-filter ring around the pump prevents dirt and debris from clogging the system. In the event of an oil release, the VIPOR-100 provides full secondary containment. In the absence of an oil release, the unit will never have to be replaced, provided the pre-filter sock remains in place and is serviced as needed.

Use the VIPOR-100 in substations, underground vaults or anywhere in which there is a need to evacuate high volumes of water that are required to be completely free of hydrocarbon contamination. Light enough to be portable, it can also service manholes and vaults in underground networks. It is especially suited for states threatened by tropical storms and hurricanes.





Installation of the VIPOR-100 is a very simple plug-and-play process. It can be positioned inside or outside of the secondary containment moat. Plumb each unit into existing drainage systems or into the substation yard. Installations usually take less than a day. Customizable components and adaptations are available as the situation requires.

Conclusion:

The electric utility replaced many of its low-flow filtration units with the VIPOR-100 SOWF system. It also placed orders for several more. Because the VIPOR-100 delivers higher flow rates yet requires much less maintenance than the previous systems, the utility lowered and, in some cases, eliminated the costs associated with manually evacuating standing water in several of its substations.

