Wastewater Treatment Systems
TECHNews
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Highland Oil/Water Separators help Electric Utilities Comply with Strict SPCC Plan Rules

Over the years, Highland Tank's patented oil/water separators have been installed at many Electric Power Utilities. These high-performance oil/water separators intercept harmful oil spills and prevent chronic oil discharges into the environment. Their use has helped public utilities throughout the United States comply with their facility's Spill Prevention Control and Countermeasure (SPCC) Plan requirements and strict stormwater discharge rules.

Federal Oil Pollution Prevention Regulations found in Title 40 Code of Federal Regulations (CFR) Part 112, which includes the SPCC Plan rules, require industrial facilities, like electrical utilities, to prevent and control oil spills. The EPA's SPCC rules specifically target these "non-transportation related facilities that could reasonably be expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines, and have (1) a total underground buried storage capacity of more than 42,000 gallons; or (2) a total aboveground oil storage capacity of more than 1,320 gallons."

Many of these impacted public utilities include cogeneration and hydroelectric power plants, switching and sub stations, customer installations, test facilities, and equipment storage and maintenance facilities. These types of facilities are engaged in the generation, transmission, and distribution of electric power. They use transformers and circuit breaker equipment that contain dielectric oil for insulation, compressor oils, and hydraulic oils. The operations at these facilities include the

Belowground oil/water separators are usually of double-walled construction with electronic leak detection.

storage and transfer of large volumes of oil for maintenance activities, power generation during emergencies, and for power plant start-up. In fact, electric utilities rely so heavily on fuel and lube oils in their day-to-day operations that they are, in most cases, obviously required to have a SPCC plans.

Highland Tank's patented oil/water separators are installed at many of these electric utilities for spill control and to reduce the discharge of oil, grease, and oily coated solids from dike drainage at the aboveground petroleum storage tank farms, secondary containment and collection catchment basins located around the facility, and loading and unloading rack containment areas. Specific SPCC impacted areas where these separators are utilized include:

1) The "switch yard" that uses equipment (e.g., transformers and circuit breakers) which contain dielectric fluid (mineral oil) for insulation, compressor oil, and hydraulic oil. Drainage must be controlled for these typically un-diked areas that include electrical yards with oil-filled electrical equipment and associated pipelines and valves, truck loading and unloading areas, and drum storage areas. These areas can be designed to control drainage through a combination of curbing, trenches, catch basins, and oil-water separators as necessary to retain a spill.

2) Fuel Oil Storage Tank Dike Area and Oil Off-Loading Areas that store back-up fuel oil should natural gas delivery be interrupted. Generating Stations most often use poured concrete walls, berms, curbing, and catchment basins to contain drainage and provide secondary containment for storage tanks and for truck loading/unloading areas.

Aboveground oil/water separators are supplied with pre-engineered collection basins with non-emulsifying influent pumps and controls.

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Concrete dike containment structures around storage tanks may accumulate significant amounts of water. Drain lines, which must be watertight, are usually installed through the dike walls and are used to drain accumulated storm water from the diked area. These lines should be fitted with open-close manual valves or other positive means of closure that are normally sealed closed and locked to prevent any oil discharges from escaping the diked area.

The accumulated rainwater must be examined and determined to be free of oil contamination before diked areas are drained. If any oil sheen or accumulation of oil is observed, the contaminated water must be diverted to an oil/water separator prior to discharge. Advanced secondary treatment systems like Highland Tank's Advanced Hydrocarbon Filtration System are required to remove dissolved hydrocarbons (BTEX - Benzene, Toluene, Ethyl-Benzene, and Xylene, etc.) and Volatile Organic Compounds (VOC) prior to discharge.

Advanced Hydrocarbon Filtration Systems, utilizing filters with patented hydrocarbon removal technology, are engineered to remove dissolved hydrocarbons like BTEX from water.

3) Generating station loading/unloading areas are necessary for tank cars or trucks to collect used insulation oil (loading) from holding tanks or to fill tanks, which store new insulation oil (unloading). Due to their function, tank car and truck loading/ unloading areas have a high probability for spills.

The most common loading/unloading area containment system is a covered, curbed, and graded area that drains to an oil/water separator. To comply with the facility's SPCC Plan, the separator must be designed to hold the maximum capacity of the largest compartment of a tank car or truck loaded or unloaded at the facility. Electrical utilities may receive product from tanker trucks which may have three 3,000-gallon compartments (sizes vary) or from other smaller trucks. A minimum 6,000-gallon oil/water separator, with a spill capacity of 3,000 gallons, would typically be specified.

Whether a small 1,000-gallon oil/water separator is required or a larger 60,000-gallon unit, all Highland oil/water separators are of the highest quality and double-walled to comply with stringent regulatory requisites. They are individually engineered to specific utility application and job-site requirements to maximize performance. All Highland separators are equipped with special Corella® inclined parallel plate coalescers. Corella® combines the features of both a flat plate and a corrugated plate coalescer into a new "self-cleaning" design that performs better than traditional plate separators. The Corella® coalescers are the only coalescers on the market designed to enhance both separation of oil and solids from the wastewater stream.

Visit Highland Tank Oil/Water Separators or SPCC Plan Requirements to learn more about how Highland Tank oil/water separators are specifically applied to satisfy strict SPCC Plan requirements.

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Highland Tank
One Highland Road • Stoystown, PA 15563
Phone: 814-893-5701 • Contact: Steve Mapes
Email: smapes@highlandtank.com

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