Stormwater Management



Key Takeaways:

– Understanding why facilities need to manage stormwater properly.
– Learning methods usable to reduce the sources of stormwater pollution at your facility.
– Understanding how you should respond to a release of a polluting substance.

Course Description

The Environmental Protection Agency (EPA) has stated that “Urbanization increases the variety and amount of pollutants carried into our nation’s waters. In urban and suburban areas, much of the land surface is covered by buildings, pavement and compacted landscapes with impaired drainage. These surfaces do not allow rain and snow melt to soak into the ground which greatly increases the volume and velocity of stormwater runoff.”

Always, stormwater will enter our streams, rivers, lakes, and marshes after rain or snow melt through direct run-off from the adjacent ground surfaces and indirectly from other sources such as streets, lawns, roofs, industrial facilities, parking lots, and storage areas through storm drain discharge. In the case that stormwater run-off contains toxic or hazardous substances such as chemicals, petroleum products, pesticides, heavy metals, or other regulated contaminants, it can ultimately pollute our lakes, streams, rivers, an other water supplies.

For our protection, the federal Clean Water Act (CWA) forbids the discharge of toxic or hazardous stormwater run-off. Through the Clean Water Act, the EPA ensures that all businesses and facilities have a National Pollutant Discharge Elimination System (NPDES) stormwater permit. The NPDES stormwater permit is meant to regulate the run-off of stormwater from various types of industrial facilities and construction activities by limiting what can be discharged into the receiving waters of the United States.

All manufacturing facilities require an NPDES stormwater permit if material handling equipment or activities, raw materials, industrial chemicals, spills, wastes, or industrial processes are exposed to stormwater, if the facility cannot demonstrate that stormwater exposure can be prevented. As well, permits

are required even when stormwater run-off can be collected, evaluated, and pre-treated before discharge from the property.

To follow the NPDES stormwater permit, the EPA requires your facility to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) which will ensure that toxic or hazardous stormwater run-off originating in the facility never discharges into the stormwater drainage system. As well, the facility must identify, control, or eliminate the sources of pollutants to stormwater.

Your Stormwater Pollution Prevention Plan must:
– Identify all potential sources of pollution that are generated by the facility's activities;
– Describe the facility's Best Management Practices (BMPs) to help stop toxic or hazardous stormwater run-off from reaching waterways;
– Be unique to the facility;
– Display how it conforms to stormwater pollution prevention;
– Comply with a set of general requirements.

Essential Elements of the Stormwater Pollution Prevention Plan:
– Identifaction of individuals responsible for implementing, maintaining, and revising the plan;
– An stock and description of all exposed materials, tests for non-stormwater discharges, and evaluations of monitoring data;
– Summarization of pollutant sources and risks;
– A description of baseline Best Management Practices (BMPs) for employee training and implementation;
– A supplied topographic and site layout map of the facility that locates surface water bodies, wells, seepage pits, and filtration ponds.

Below are the examples of Best Management Practices:
– Good housekeeping measures
– Preventive maintenance
– Inspections
– Sediment and erosion prevention
– Materials management
– Traditional stormwater management practices
– Requirements for employee training
– Spill prevention and response procedures

Good Housekeeping
– Always keep the work area clean and orderly.
– Promptly clean all minor spills and leaks with absorbent material and dispose of the material in containers according to the facility's plan.
– Station all hazardous materials and wastes in properly labeled, tightly covered, and leak-proof containers.
– Only allow approved methods to recycle and dispose of waste chemicals.
– Never mix hazardous materials or leave them abandoned for someone else to identify and deal with.

Fueling Vehicles and Equipment
– Ensure you know the fuel capacity before filling your tanks.
– Never "top off" fuel tanks when transferring fuel.
– Always utilize drip pans to catch any leakage.
– Ensure spill kits are provided at fueling locations.

– Always use absorbent materials to soak up even small spills and for general cleaning.
– Dispose of absorbent materials immediately after fueling is completed in a properly labeled container.
– Ensure that dumpsters, bins, and other containers of materials covered.
– Place debris, loose materials, scrap material, and material in temporary outdoor storage off the ground or in containment areas that are covered.