FUNDAMENTAL 55: Spill Prevention, Control, and Countermeasure Plan



Key Takeaways:

– Learning about the harmful effects of spilled oil and the applicable laws and regulations for oil pollution prevention.
– Understanding the purpose and general requirements of a facility SPCC Plan.
– Learning general operating procedures designed to prevent spills.
– Observing general control measures to prevent an oil spill from reaching navigable waters and adjoining shorelines.
– Learning basic countermeasures for stopping a spill from reaching the environment and how to respond to facility shutdown and evacuation.

Course Description

OSHA reported that, from 2003 to 2010, 823 oil and gas extraction workers were killed on the job – a fatality rate seven times greater than the rate for all U.S. industries

The Environmental Protection Agency (EPA) found that many of the 14,000 oil spills reported annually are caused by industry activities resulting from storage tank rupturing, pipeline leaks, and oil transport accidents.

Oil spills are a significant threat to the environment and often require specially trained emergency response personnel to contain and clean them up. In fact, some spills are so significant that they require help from local and state agencies, in addition to federal governments.

Here are several important laws that industry employers should understand to prevent oil spills and orchestrate appropriate responses:
Clean Water Act
– Prohibits the release of oil and petroleum products into waters of the United States and adjoining shorelines.

Oil Pollution Prevention and Response Regulation, 40 CFR, Part 112
– Forces certain facilities to implement Spill Prevention, Control, and Countermeasure (SPCC) Plans and train employees in oil spill prevention.
– Created to help facilities prepare for and respond to any oil spill affecting the waters of the United States.

Environmental Protection Agency (EPA)
– Enforces regulations.

– Performs on-site inspections to guarantee facilities take adequate measures to prevent an accidental discharge of oil.

The Oil Pollution Prevention and Response regulation affects the owners or operators of “regulated” facilities. Any facility is a regulated facility if it meets these three criteria:
1. The facility needs to be a non-transport-related facility operating onshore or offshore.
2. The facility must have a total aboveground oil storage capacity of over 1,320 gallons or have a completely buried storage capacity over 42,000 gallons.
3. There has to be a reasonable expectation of a discharge based on the facility’s location near water or adjourning shorelines. For illustration, a reasonable expectation would be a situation where a spill could flow into storm drains and the toxic runoff could then flow to a lake, stream, river, wetland, or coastal water.

The EPA requires regulated facilities to have a fully prepared and implemented Spill Prevention, Control, and Countermeasure Plan, or SPCC Plan, to prevent the discharge of oil into inland and marine waters and to control spills that do happen.

Workers are responsible for:
– Knowing the location of your facility’s SPCC Plan
– Enacting the procedures specified in the plan
– Identifying your facility’s emergency response coordinator
– Knowing the locations of emergency shut-offs to oil tanks

General Spill Prevention Practices
– Know where spill prevention devices are and how to use them.
– Only use receptacles designated for oil waste.
– Understand how to properly operate oil-handling equipment.
– Learn how to read or operate liquid level alarms, cutoff devices, and vacuum protection.
– Always stay with the vehicle if you are the driver during oil loading and unloading operations.
– Frequently inspect hoses and connections, in addition to checking tank levels.
– Notify your supervisor of all leaks and unusual observations.

Procedures for Loading and Unloading Oil
– Utilize the containment equipment provided to prevent the spread of spilled oil.
– Guarantee that the wheels of the delivery trucks are chocked the entire time.
– If you are a driver, be within 25 feet and in full view of the truck during the entire loading and unloading process.
– Regularly check the leak detection gauges on fuel and oil tanks.
– Guarantee that all tank flow valves are locked-out when they are in a non-operating or non-standby mode.

Example of spill control measures include:
– Mechanical Containment Equipment
– Blocking the spread of oil
– Focusing it into one area
– Containing the oil until it can be removed and disposed of properly

For all onshore facilities that have a significant potential for oil spills and leaks:
– Plug floor drains
– Seal storm drains
– Divert discharge from a primary containment system, such as a tank or pipe, into secondary containment areas until cleanup can be completed

Secondary containment method examples:
– Curbs
– Diversion ponds

- Dikes
- Berms
- Retaining walls