

Spill, Prevention, Control and Countermeasures (SPCC) Compliance Training

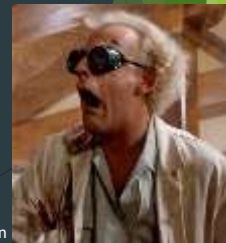
Module 1: SPCC History, Applicability, and Definitions



October 2023

Clean Water Act - 1972

- ▶ “The granddaddy of them all”. The Federal Water Pollution Control Act (FWPCA) of 1972, as amended, commonly known as the Clean Water Act (CWA), is the principal federal statute for protecting navigable waters, adjoining shorelines, and the waters of the contiguous zone from pollution.
- ▶ Section 311 of the CWA addresses the control of oil and hazardous substance discharges and provides the authority for promulgation of a regulation to prevent, prepare for, and respond to such discharges.



“We’re sending you back...to the future!”... Doc Brown

Initial SPCC Rule 40 CFR 112 - 1973

- ▶ The SPCC rule implements EPA's authority under CWA §311, as delegated through various Executive Orders. EPA was delegated the authority to regulate non-transportation-related onshore and offshore facilities that could reasonably be expected to discharge oil into navigable waters of the United States or adjoining shorelines (July 1970).
- ▶ Additional Executive Orders (August 1973; October 1991) delegated authority to the U.S. Department of Transportation (DOT) over transportation-related onshore facilities, deepwater ports, and vessels.
- ▶ A Memorandum of Understanding (MOU) between the Secretary of Transportation and the EPA Administrator, dated November 24, 1971 defines non-transportation-related facilities and transportation-related facilities.



Ashland Oil Company Spill - 1988

- ▶ **January 1988:** Ashland Oil Company's 4-million-gallon aboveground storage tank experienced a brittle fracture failure spilling approximately 750,000-gallons of diesel fuel into Monongahela and Ohio Rivers. Drinking water supplies were impacted for 1 million people in Pennsylvania, Ohio and West Virginia.
- ▶ In response to the Ashland oil spill, EPA formed an SPCC Task Force to:
 - Focus on the prevention of large, catastrophic oil spills.
 - Make recommendations on the SPCC program.



Task Force Findings - May 1988

- ▶ Specifically, the Task Force recommended that the EPA establish additional technical requirements for SPCC Plan preparation and implementation, including:
 - Focus on the prevention of large, catastrophic oil spills.
 - Adopting industry standards for new and relocated tanks;
 - Differentiating SPCC requirements based on facility size;
 - Modifying timeframes for SPCC Plan preparation, implementation, and review;
 - Requiring strengthened integrity testing and periodic inspection of tanks and secondary containment;
 - Requiring that a Professional Engineer certify an SPCC Plan;
 - Ensuring that employees undergo response training; and
 - Modifying definitions and providing additional preamble discussion.

Exxon Valdez Spill - 1990

- ▶ **March 1990:** The Exxon Valdez spilled 11 million gallons of crude oil into Prince William Sound.
- ▶ In response to the catastrophic releases documented in the late 80s/ early 90s, Congress enacted the Oil Pollution Act of 1990 (OPA).
- ▶ The OPA streamlined and strengthened EPA's ability to prepare for and respond to catastrophic oil discharges. Specifically, OPA expands prevention and preparedness activities, improves response capabilities, ensures that shippers and owners or operators of facilities that handle oil pay the costs associated with discharges that do occur, and establishes an Oil Spill Liability Trust Fund.



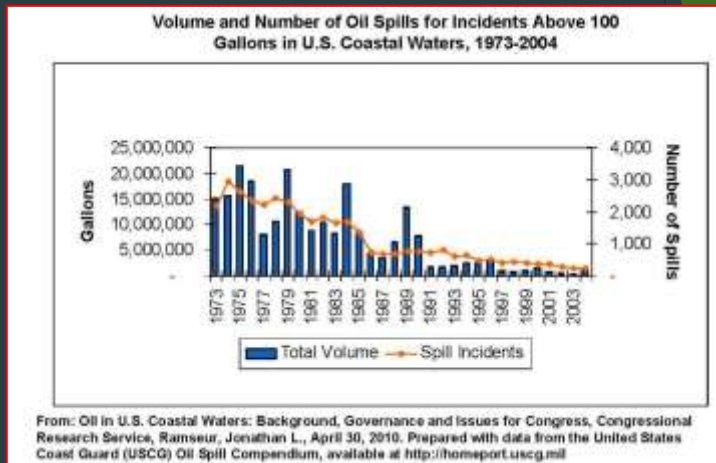
Summary of Amendments - 2002 - 2010

- ▶ On July 17, 2002, EPA published a final rule amending the Oil Pollution Prevention regulation 40 CFR 112. The final rule became effective on August 16, 2002, and incorporated many of the proposed revisions from previous proposals.
- ▶ The December 2006 SPCC rule amendments addressed certain areas of the SPCC requirements and specific issues and concerns raised by the regulated community. Accordingly, in October 2007, EPA proposed additional amendments to the SPCC rule to address these requested changes.
- ▶ EPA finalized these revisions on December 5, 2008, with modifications finalized in November 2009; both of these actions became effective on January 14, 2010.



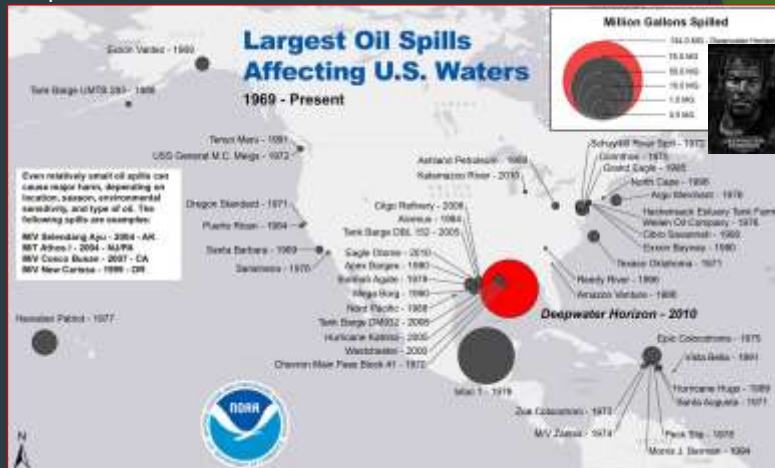
Final Thought on the Creation of the SPCC Rules:

- ▶ SPCC Rules have made a significant difference from their implementation in 1973.



Updated NOAA Information:

- ▶ SPCC Rules have made a significant difference from their implementation in 1973.



SPCC Rule Applicability - 40 CFR 112.1

- ▶ The SPCC rule establishes requirements to prepare and implement SPCC Plans. The purpose of an SPCC Plan is to form a comprehensive oil spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility.
- ▶ The rule applies to the owners and operators of non-transportation-related onshore and offshore facilities that could reasonably be expected to discharge oil into navigable waters of the United States or adjoining shorelines in quantities that may be harmful.

Important Volumes

- ▶ SPCC Rule only applies to facilities with oil storage capacities that exceed a specific threshold:
 - Have an aboveground oil storage capacity of more than 1,320 U.S. gallons; or
 - A completely buried oil storage capacity greater than 42,000 U.S. gallons.

Note: Completely buried tanks that are regulated by 40 CFR parts 280 and 281 are exempt from SPCC Rule.



USTs Applicable to SPCC Rule

- ▶ 40 CFR part 280 regulates underground storage tanks (USTs) used primarily for the storage of petroleum products for commercial purposes. Additional uses for USTs regulated by 40 CFR part 280 include fuel used for boilers/ steam generators, or connection to emergency generators. 40 CFR part 281 finalizes regulations for states to run UST programs in lieu of the federal program.
- ▶ The following USTs are excluded from 40 CFR Parts 280 and 281 and are therefore regulated under SPCC Rule 40 CFR Part 112:
 - Farm or residential USTs of 1,100 gal or less capacity used for storing motor fuel for noncommercial purposes.
 - USTs used for storing heating oil for consumptive use on the premises where stored.
 - Any UST system whose capacity is 110 gal or less.
 - Any UST situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor



Organizational Details of SPCC Rule

- ▶ Subpart A: All facilities and all types of oil.
- ▶ Subpart B: Petroleum oils and non-petroleum oils. (Except those oils covered in Subpart C).
- ▶ Subpart C: Animal fats, oils and greases, fish and marine oils, vegetable oils from seeds, nuts, fruits and kernels.
- ▶ Subpart D: Response requirements for **significant and substantial harm facilities**.

Subpart D: Significant and Substantial Harm Facilities - 40 CFR 112.20 & 112.21

- ▶ Transfers oil over water to or from vessels and has a storage capacity of greater than 42,000-gallons; or
- ▶ Has a total storage capacity greater than 1,000,000-gallons and one of the following is true:
 - No secondary containment for tanks; or
 - Proximity to sensitive area; or
 - Proximity to drinking water intake; or
 - History of spills



Appendix G to Part 112 - Tier I Qualified SPCC Plans

- ▶ This type of plan applies to facilities that have at least 1,320-gallons, but less than 10,000-gallons of any type of oil or petroleum product on-site in aboveground storage tanks.
- ▶ All the ASTs must be smaller than 5,000-gallons
- ▶ Tier I SPCC Plans are most simple type of plans to implement and use at a facility. They are short, concise, and can be created by anyone since this plan is self-certified and the template is included in the SPCC Rule in Appendix G.
- ▶ No P.E. certification is required for Tier I Plans



Tier II Qualified SPCC Plans

- ▶ This type of plan applies to facilities that have at least 1,320-gallons, but less than 10,000-gallons of any type of oil or petroleum product on-site in aboveground storage tanks.
- ▶ Tier II SPCC Plans have an AST that is above 5,000-gallons and cannot have a qualified discharge to navigable waters in the past 3 years.
- ▶ Tier II SPCC Plans can also be created by anyone since this plan is self-certified as provided in 40 CFR 112.6(b)



Definitions: Discharge

- ▶ A discharge is defined as including, but not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping of oil.



Definition of Oil - 40 CFR 112.2

- ▶ The EPA defines oil as any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.
- ▶ The SPCC rule applies to both petroleum oils and non-petroleum oils. Nonpetroleum oils and greases include coal tar, creosote, silicon fluids, pine oil, turpentine, and tall oils. Synthetic oils are also regulated under SPCC rule.



Definitions: Navigable Waters

- ▶ Navigable Waters = The waters of the United States which are:
 1. Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 2. The territorial seas; or
 3. Interstate waters

- ▶ These include all
 1. Impoundments of waters
 2. Tributaries
 3. Wetlands
 4. Lakes
 5. Natural Ponds
 6. Rivers
 7. Generally, all natural waters

Note - Waters of the US do not include waste treatment systems, ditches without a permanent flow of water, or artificial lakes, ponds, or other irrigated areas.



Definitions: Harmful Quantity

- ▶ An amount of oil that when discharged violates applicable water quality standards
- ▶ Causes a film or sheen on the surface of the water or shoreline
- ▶ Causes a sludge or emulsion to be deposited on the shoreline or beneath the surface of the water

“Oil spills can damage plants and animals including birds, fish, and other wildlife. A single pint of oil released into water can cover one acre of water surface and seriously damage an aquatic habitat.”



Discharge Reporting - SPCC Requirements

- ▶ SPCC Plans must be submitted to the US EPA Regional Administrator whenever a facility has a discharge of more than 1,000 gallons of oil in a single event, or
- ▶ Discharges over 42 gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in two spill events occurring within any 12-month period.



Discharge Reporting - Federal Requirements

- ▶ The National Response Center (1-800-424-8802) must be notified if:
 - A facility has a discharge of oil that violates applicable water quality standards; or
 - A discharge of oil causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines; or
 - A discharge causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.
- ▶ The NRC is the sole federal point of contact for reporting all hazardous substances releases and oil spills.

Note: The NRC will notify the Coast Guard and the EPA, if necessary.

Discharge Reporting - State DEQ Requirements

- ▶ All discharges of oil from a facility are reportable to the Virginia Department of Environmental Quality (DEQ) if the release is 25 gallons or greater or if the spill reaches state waters.
- ▶ Releases that are 25 gallons or less do not have to be reported if a discharge record is kept over a period of 5 years and the spill is promptly cleaned up in accordance with applicable state regulations.
- ▶ The DEQ-Blue Ridge Regional Office in Roanoke/Salem can be reached at 540-562-6700 in the event of a release.
- ▶ The DEQ-Piedmont Regional Office in Richmond can be reached at 540-527-5020 in the event of a release.



Note: A record of all oil related spills, regardless of size, must be kept over a period of 5 years.

Applicability, Continued

- ▶ Facilities that are owned and operated by federal, state, local government or tribal entities are equally subject to SPCC Rule as any other facility.
- ▶ Unlike some other federal environmental programs, the CWA does not authorize the EPA to delegate the SPCC program implementation or enforcement to State, local, or tribal representatives.

Definitions: Facility - 40 CFR 112.2

- ▶ Facility means any mobile or fixed, onshore or offshore building, property, parcel, lease, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and oil waste treatment, or in which oil is used, as described in Appendix A.



Note: While the facility owner/operator has some discretion in defining the parameters of the facility, the boundaries of a facility may not be drawn to solely avoid regulation under 40 CFR part 112.

Definitions: Bulk Oil Storage Container

- ▶ 40 CFR 112.2 defines a bulk storage container as any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce.

Note: Oil-filled electrical, operating, or manufacturing equipment is not considered a bulk storage container.



Definitions: Oil Filled Operational Equipment

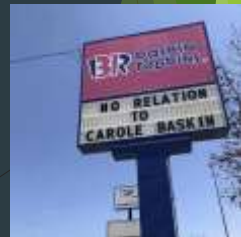
- ▶ Oil-filled operational equipment means equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device.
- ▶ Examples of oil-filled operational equipment include, but are not limited to, hydraulic systems, lubricating systems, gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device.

Note: The belly tanks supplying fuel to a generator are typically considered bulk storage tanks and are not oil filled operational equipment.



Important Distinctions

- ▶ A bulk storage container, as defined in §112.2, with a capacity of 55 U.S. gallons or greater, must follow specific requirements, as described under §§112.8(c), 112.9(c), and 112.12(c) for onshore facilities. Examples of these requirements include, but are not limited to, secondary containment and fail-safe engineering (such as high-level alarms), inspections, and testing.
- ▶ Oil-filled equipment is not subject to the bulk storage container requirements in §§112.8(c), 112.9(c), and 112.12(c). However, oil-filled equipment must meet the general requirements of §112.7.



Definitions: Permanently Closed - 40 CFR 112.2

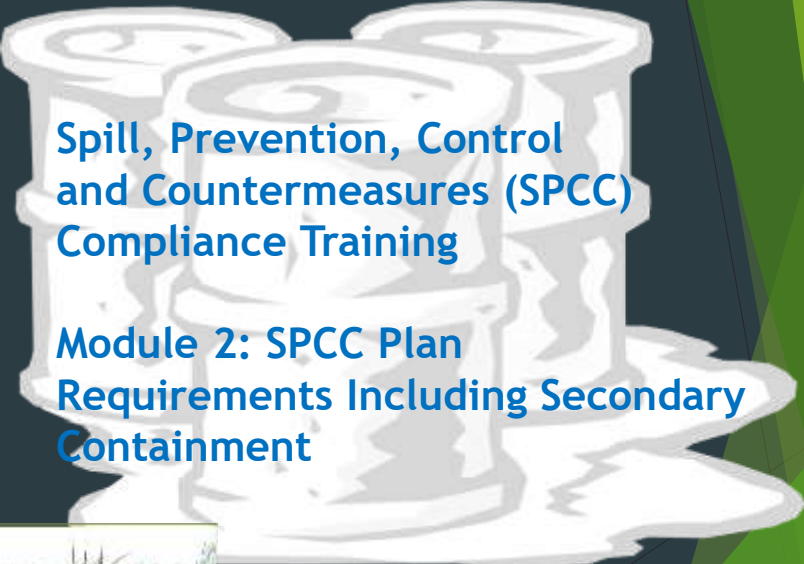
- ▶ Once permanently closed, a container no longer counts toward the total facility storage capacity, nor is it subject to the other requirements under the SPCC rule. For an AST to be considered “permanently closed” the facility must:
 1. Remove all liquid and sludge from the container.
 2. Disconnect and blank off any piping.
 3. Close and lock all valves (except vents).
 4. Post a conspicuous sign stating the tank is closed and the date of closure.



Final Thought Module 1: The Aim of the SPCC Rules

- ▶ **Prevention:** Prevent oil discharges through the implementation of sound operating procedures such as inspections and personnel training
- ▶ **Control:** Mitigate adjoining shorelines by requiring measures such as secondary containment and integrity testing for above ground storage containers
- ▶ **Countermeasures:** Prepare facilities to respond to an oil discharge event by pre-planning contingencies, mainly an SPCC Plan





Spill, Prevention, Control and Countermeasures (SPCC) Compliance Training

Module 2: SPCC Plan Requirements Including Secondary Containment



October 2023

SPCC Plan Requirements

- ▶ An SPCC Plan must:
 1. Be written;
 2. Have full approval of management to commit resources to implement Plan;
 3. Be kept at attended facility;
 4. Be available to EPA for on-site review during normal working hours;



Required Reviews and Amendments

- ▶ An SPCC Plan is intended to be a “living document” that changes as the facility makes changes to its oil storage:
 - The facility must complete a review and evaluation of the SPCC Plan at least once every five (5) years.
 - An SPCC Plan must also be amended whenever there is a change in the facility design, construction, operation, or maintenance that materially affects the facility’s potential for discharging oil.



Note: A Professional Engineer (PE) certification is required for technical amendments only. PE certification is not required for non-technical amendments, such as changes to phone numbers, names, etc.

Typical SPCC Modifications Requiring PE Certification

- ▶ Adding or removing bulk oil storage containers with a capacity greater than 55-gallons.
- ▶ Adding or removing oil-filled operational equipment with a capacity greater than 55-gallons.
- ▶ Adding or removing USTs not regulated under 40 CFR parts 280 and 281.
- ▶ Any changes in facility drainage that could impact a release pathway to a surface water.
- ▶ Any changes in loading or unloading procedures that could materially affect the potential of a release.
- ▶ Adding or removing a loading rack from the facility.

Primary Components of an SPCC Plan 40 CFR 112.7

Physical description of facility including a Facility Diagram with:

- ▶ contents and capacity of fixed containers
- ▶ drum storage areas,
- ▶ transfer stations and connecting pipes as well as the location of “exempt” tanks and pipelines,
- ▶ Drainage features including potential flow pathways in the event of a release

Primary Components of an SPCC Plan, Continued

For each oil storage container maintained at the facility, the SPCC Plan must describe:

- ▶ Discharge prevention measures (112.7.a.3.ii)
- ▶ Discharge or drainage controls (112.7.a.3.iii)
- ▶ Diversionary structures or equipment that prevent spills from reaching navigable waters (112.7.c)
- ▶ Bulk storage secondary containment requirements (112.8.c.2)
- ▶ Draining rainwater from diked areas (if applicable) (112.8.c.3)
- ▶ Fail-safe spill prevention (112.8.c.8)



Diversionary Structures or Equipment for Bulk Storage Containers - 40 CFR 112.7(c)

- ▶ Per 40 CFR 112.7 (c), at a minimum one of the following prevention systems or its equivalent must be used:
 - dikes, berms, or retaining walls sufficiently impervious to contain oil;
 - curbing;
 - culverting, gutters, or other drainage systems;
 - weirs, booms, or other barriers;
 - spill diversion ponds;
 - retention ponds; or
 - sorbent materials



▶ Double-walled ASTs



▶ Lined Containment Dike



▶ Concrete Curbing Draining to a Concrete Basin



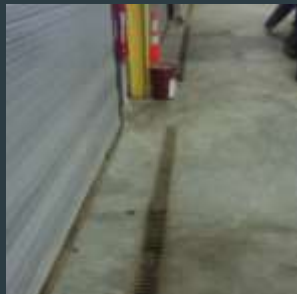
▶ Concrete Containment Dike



▶ Diversion/ Retention Pond



▶ Drum Spill Pallet



▶ Floor Drain to an Oil/Water Separator



▶ Absorbent Booms Around Drop Inlet

Secondary Containment: General vs. Specifically-Sized

- ▶ General secondary containment requirements are intended to address, the most likely oil discharges from areas or containers such as **mobile refuelers** and other **non-transportation-related tank trucks**; **oil-filled operational or process equipment**; (non-rack) transfer areas; or piping. Only the **typical failure mode** needs to be considered. In determining the method, design, and capacity for general secondary containment.
- ▶ The specifically-sized secondary containment requirements are intended to address a major container failure (e.g., the entire contents of the container and/or compartment) associated with a **bulk storage container**; single compartment of a tank car or tank truck at a **loading/unloading rack**; and **mobile/portable containers**. These specific provisions provide explicit requirements for sizing, design, and freeboard.

Mobile/ Portable Containers

- ▶ Mobile or portable oil storage containers with a capacity to store 55 gallons or more of oil and operating exclusively within the confines of a non-transportation-related facility are regulated under the SPCC Rule.
- ▶ Examples of mobile portable containers include but are not limited to: 55-gallon drums, skid tanks, totes, and intermediate bulk containers (IBCs).
- ▶ According to §§112.8(c)(11) and 112.12(c)(11), mobile or portable containers (excluding mobile refuelers and other non-transportation-related tank trucks) must be positioned or located to prevent a discharge. The provision requires that the secondary containment be specifically sized.



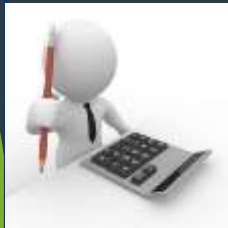
Specifically-Sized Containment Requirements

- ▶ Provisions for specific secondary containment require that the chosen containment method be sized to contain the largest single oil compartment or container plus “sufficient freeboard” to contain precipitation.
- ▶ While the rule does not require that secondary containment calculations be kept in the Plan, the EPA strongly recommends that the facility owner or operator maintain the calculations such that if questions arise during an inspection.

Note: The SPCC rule does not specifically define the term “sufficient freeboard,” nor does it describe how to calculate this volume.

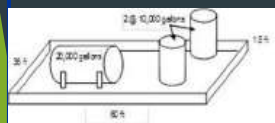
So How Do You Calculate Sufficient Freeboard?

- ▶ The 1991 proposed amendment to the SPCC rule recommended the use of industry standards and data on 25-year, 24-hour storm events to determine the appropriate freeboard capacity.
- ▶ A “110 % of storage tank capacity” rule of thumb is an acceptable design criterion in many situations, However, 110% of storage tank capacity may not provide enough volume to contain precipitation from storm events.
- ▶ The adequacy of the secondary containment freeboard is ultimately an engineering determination made by the PE and certified in the facility’s SPCC Plan.



Things to Watch Out For

- ▶ No *enforceable* requirement for amount of freeboard in a designed containment structure (i.e., 25 year storm or 110% of capacity of the largest container).
- ▶ Permeability of wall or floors in containment structure (the wall/floor seam is the weakest part of any containment dike or curbing).
- ▶ Make sure all dike drain valves are sealed/closed!
- ▶ You must subtract the volume of all primary containers when calculating volume of secondary containment.



Active vs. Passive Measures

- ▶ Active: The containment measure involves a certain action by facility personnel before or after the discharge occurs. These actions are also referred to as spill countermeasures.
 - Active containment measures can be used to satisfy the general secondary containment requirement when they can contain the most likely discharge volume identified in the SPCC Plan.
- ▶ Passive: The containment measure remains in place regardless of the facility operations and therefore does not require an action by facility personnel.



Types of Active Measures/ Countermeasures

- ▶ Placing a properly designed storm drain cover over a drain to contain a potential spill in an area where a transfer occurs, **prior** to the transfer activity.
- ▶ Placing a storm drain cover over a drain **in reaction to** a discharge, before the oil reaches the drain.
- ▶ Using spill kits in the event of an oil discharge.
- ▶ Use of spill response capability (spill response teams) in the event of an oil discharge.
- ▶ Closing a gate valve that controls drainage prior to a discharge.

Note: The use of active containment as a strategy to address discharges should be carefully evaluated. The ability of active containment measures to contain a release depends on their technical effectiveness (e.g., mode of operation, absorption rate), placement and quantity, and timely deployment prior to or following a discharge

Impracticability Determination

- ▶ If secondary containment is determined by the PE to be “impracticable” the facility must:
 1. Perform periodic integrity testing of bulk storage containers and periodic integrity and leak testing of valves and piping;
 2. Develop an Oil Spill Contingency Plan (40 CFR 109); and
 3. Provide written commitment of manpower, equipment and materials to remove any quantity of oil discharged that may be harmful.

Note: Impracticability determination considerations include space and geographical limitations, local zoning ordinances, fire codes, safety, or other good engineering practice reasons. Cost cannot be the only determining factor in claiming impracticability!

Primary Components of an SPCC Plan, Continued

- ▶ Procedures for discharge discovery, response, cleanup and reporting;
- ▶ Contact list and phone numbers for facility, NRC, state (DEQ) and federal agencies, and cleanup contractors;
- ▶ Methods of disposal for recovered materials.



Note: Most SPCC Plans have a contact list or accidental release reporting form as an Appendix that directs SPCC Coordinators on necessary information and who to contact in the event of a release at the facility.

Primary Components of an SPCC Plan, Continued

- ▶ Prediction of direction, rate and quantity of oil that could be discharged from each type of oil storage container in the event of a release.
- ▶ Potential spill pathways should be shown on the Facility Diagram(s).



Primary Components of an SPCC Plan, Continued

- ▶ Procedures for conducting inspections and tests for all regulated ASTs. Per 40 CFR 112.7 (e), records of inspections must be kept with the SPCC Plan for 3 years.
- ▶ Designation of a person accountable for discharge prevention who reports to management (i.e., the SPCC Coordinator)



Monthly and Annual Inspections

- ▶ SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices.
- ▶ Steel-walled, aboveground petroleum storage containers equal to or greater than 55-gallons must be visually inspected on a monthly and annual basis in accordance with an industry standard (STI-SP001 is the most typical inspection standard used).
- ▶ Blank copies of the monthly and annual facility inspection checklists are included as Appendices for both SPCC Plans.



Note: Additional formal external or internal inspections by a certified inspector may be required for selected ASTs per STI-SP001 depending on tank capacity and type of secondary containment in place.

Responsibilities of the SPCC Coordinator

- ▶ The SPCC Coordinator shall be responsible for implementation of spill response activities, maintenance and upkeep of all oil storage areas, and keep records of any updates to the SPCC plan as part of required amendments and/or 5-year updates.
- ▶ The SPCC Coordinator should be the primary point of contact for spill response and release reporting in the event of an oil spill.
- ▶ A copy of the SPCC Plan should be maintained in the SPCC Coordinator's Office.



Required Personnel Training

- ▶ Responsible employees at the site shall become familiar with the contents of the SPCC Plan. The EPA requires SPCC compliance training for personnel who have a role in the management of oil including delivery, maintenance, storage, disposal, or spill response.
- ▶ Training Requirements Include:
 1. Annual training for oil handling personnel.
 2. Discharge prevention equipment operation.
 3. Pollution control laws and rules.
 4. General facility operations.
 5. Contents of SPCC Plan.

Note: Personnel should be trained immediately upon hire or transfer to a position involved with oil management.



Security Measures - 40 CFR 112.7(g)

- ▶ The SPCC Plan shall provide a description of facility security that includes the following:
 - How valves, starter controls, and pumps are secured from unauthorized access (i.e., fencing, inside locked buildings, etc.);
 - How master flow valves closed/locked;
 - Ensure that starter controls on pumps are locked;
 - Load lines are capped or blank-flanged;
 - Facility lighting is appropriate for release discovery during the nighttime hours and to prevent vandalism.



Primary Components of an SPCC Plan, Continued

- ▶ The SPCC Plan should also include an evaluation of field constructed containers for brittle fracture and/or other catastrophic failures and;
- ▶ Discussion of SPCC Plan conformance with more stringent State rules and regulations (i.e., the Virginia AST Regulations 9 VAC 25-91-10).



Important to Remember!

- ▶ If your facility meets the oil storage requirements and is located within the Commonwealth of Virginia, both an Oil Discharge Contingency (ODC) Plan and an SPCC Plan will be required for compliance with state and federal regulations.
- ▶ Although similar in scope and purpose, ODC Plans and SPCC Plans have different thresholds and reporting requirements:
 - Registration is required for an individual AST with a storage capacity greater than **660-gallons** (i.e., not 55-gallons).
 - Oil-filled operational equipment, transformers, and generators with integrated belly tanks are exempt from the VA AST Regs.
 - ODC Plans are required for facilities with an oil storage capacity exceeding 25,000-gallons.
 - Inspection requirements for ODC Plans include daily, weekly, and monthly visual inspections with required record keeping for a minimum of 3 years.



Additional Requirements: Loading Racks 40 CFR 112.7(h)

- ▶ Section 112.7(h) requires a sized secondary containment system for a loading rack. The containment must hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.
- ▶ The SPCC rule does not require that secondary containment for loading/unloading racks be designed to include freeboard for precipitation.
- ▶ Loading and unloading activities that take place beyond the rack area are not subject to the requirements of §112.7(h), but are subject, where applicable, to the general secondary containment requirements of §112.7(c).



Additional Requirements: Dike Drainage Requirements 40 CFR 112.8(c)(3)

- ▶ Containment dikes that are exposed to rainwater are required to prevent unsupervised drainage of rainwater into a storm drain or surface water:
 - All bypass valves should be sealed closed.
 - Personnel should inspect retained rainwater to prevent a discharge to navigable waters or adjoining shorelines.
 - Open the bypass valve and reseal it following supervised drainage; and
 - Keep adequate records of dike drainage event.



Note: Most SPCC Plans have a Dike Drainage Form as an Appendix that directs facility personnel on the requirements for draining rainwater from AST containment dikes.

Additional Requirements: Overfill Prevention

- ▶ Sections 112.8(c)(8) and 112.12(c)(8) require that each AST installation is engineered to avoid discharges during filling activities. The selection of an overfill prevention system should be based on good engineering practice and methods that are appropriate for the tank system.



An estimated 50% of overfills are related to operator error/inattention.

Additional Requirements: Overfill Prevention

- ▶ The facility must provide at least one of the following devices:
 1. High liquid level alarms with an audible or visual signal at an attended operation or surveillance station. In smaller facilities an audible air vent may suffice.
 2. High liquid level pump cutoff devices set to stop flow at a predetermined container content level.
 3. Direct audible or code signal communication between the personnel monitoring the tank gauges and the delivery personnel.
 4. A fast response system for determining the liquid level of each bulk storage container such as digital computers, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.
 5. You must regularly test liquid level sensing devices to ensure proper operation.

Typical Causes of Overfills

- ▶ Lack of training
- ▶ Tank size restrictions
- ▶ Inaudible or inoperable alarm
- ▶ Incompatible equipment
- ▶ Filling not attended by facility personnel
- ▶ Product lines improperly marked
- ▶ Multiple tanks on common fill port
- ▶ Poor inventory reconciliation
- ▶ Not familiar with location
- ▶ Filling entire tank/ filling wrong tank



Final Thought Module 2: Spill Prevention

- ▶ It is a heck of a lot easier to plan to prevent a spill than to try and contain a release from impacting surface waters/ facility drainage.

