SPCC 101…

…for Onshore Oil Production, Drilling and Workover Facilities

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Presentation Overview

1. SPCC Rule Applicability and Basics
2. Oil Production, Drilling and Workover Facility Requirements Overview
3. Compliance Date Extension
4. Additional Information

Please note that this presentation is a summary and does not cover every SPCC provision.

Always refer to the SPCC rule and official Agency guidance found at www.epa.gov/oilspill

Section 1.

SPCC Rule Applicability and Basics

What is the SPCC Rule?

- Spill Prevention, Control, and Countermeasure rule
- Part of the Oil Pollution Prevention regulation (40 CFR part 112)
  - Includes requirements for Facility Response Plans (FRPs) for certain facilities which may pose a substantial harm to waterways and the environment
- Purpose – To develop plans designed to prevent oil discharges from reaching the navigable waters of the U.S. or adjoining shorelines

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Requirements of the SPCC rule

- Requires certain facilities, including production facilities, to develop and implement a site-specific SPCC Plan to address:
  - Containment and procedures to *Prevent* oil discharges;
  - Proactive *Control* measures to keep an oil discharge from entering navigable waters of the U.S. or adjoining shorelines (containment); and
  - Effective *Countermeasures* to contain, clean up, and mitigate any oil discharge that affects navigable waters of the U.S. or adjoining shorelines (spill response measures).

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SPCC Rule Overview

- Authority from Clean Water Act
- Oil Pollution Prevention regulation codified at 40 CFR part 112
- Original rule effective in January 1974
- Non-delegable to other agencies

Rule Applies To Non-Transportation Related Facilities

Regulations apply to owners and operators of facilities involved in:

- Drilling
- Producing
- Gathering
- Storing
- Processing
- Refining
- Transferring
- Distributing
- Using
- Consuming

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Examples of Non-Transportation Related Facilities

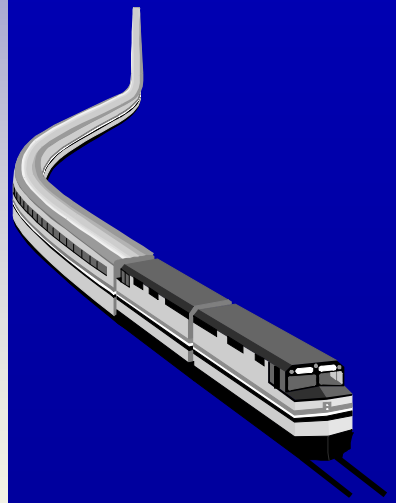
Examples of Non-Transportation-Related Facilities

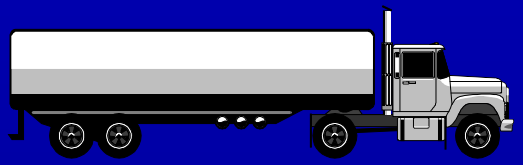
Examples of Non-Transportation-Related Facilities

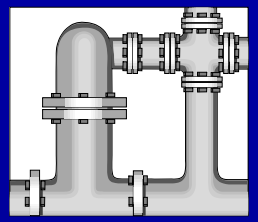
Examples of Transportation Related Facilities

DOT - YES! **EPA - NO!**

These facilities are subject to authority and control of U.S. Department of Transportation*







*** Memorandum of understanding between secretary of transportation and Administrator of EPA Nov. 24, 1971. 36 FR 24080 and a summary is found in Appendix A of the SPCC rule**

Examples of Transportation Related Facilities

Gathering Line Jurisdiction

- Inter-facility pipelines and gathering lines
  - Gathering lines are typically piping systems that transport oil from production facilities to a centralized location for injection into a pipeline
- Transportation related
- Regulated by DOT
- EPA does not have jurisdiction under the MOU to regulate these gathering systems
- MAY be subject to subject to DOT regulatory requirements 49 CFR parts 192 or 195
  - Gas 49 part 192
  - Liquid 49 part 195

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Gathering Line Jurisdiction

- Intra-facility pipelines and gathering lines
  - Gathering lines (piping systems) within the boundaries of a facility
    - Note: How you define your production facility has implications
  - Typically non-transportation related
  - Regulated by EPA (may also be DOT regulated)
  - Exempt from SPCC Rule if subject to DOT regulatory requirements 49 CFR parts 192 or 195
    - Must comply with SPCC Rule if not subject to DOT regulations
  - Note that the exempt gathering lines must be included in the facility diagram and marked as “exempt”

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What are the SPCC criteria?

You must have an SPCC Plan if:

- Facility stores > 1,320 gallons of oil in aggregate above-ground storage or has 42,000 gallons of completely buried oil storage capacity; and
- Facility has a “reasonable expectation of an oil discharge” to waterway or adjoining shoreline.

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SPCC Applicability

- Owner/operator makes the initial decision on applicability of SPCC regulations to the facility
  - Does the facility meet the applicability criteria (volumes of oil, expectation to spill to waterway)?
- No requirement to submit SPCC Plan to EPA for approval
- EPA does not formally "approve" or disapprove of SPCC Plan
- Plan is required upon inspection during regular workday

SPCC Applicability

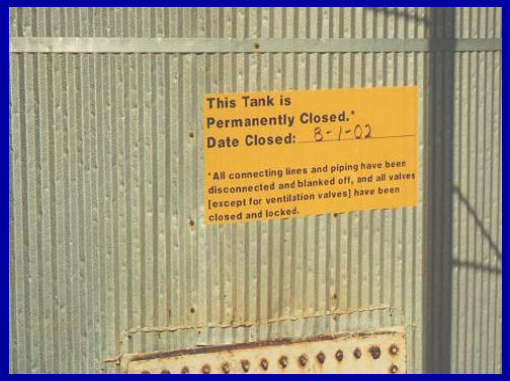
Counted

55-gallons or greater

Not Counted

5-gallon container

30-gallon drum



Permanently Closed

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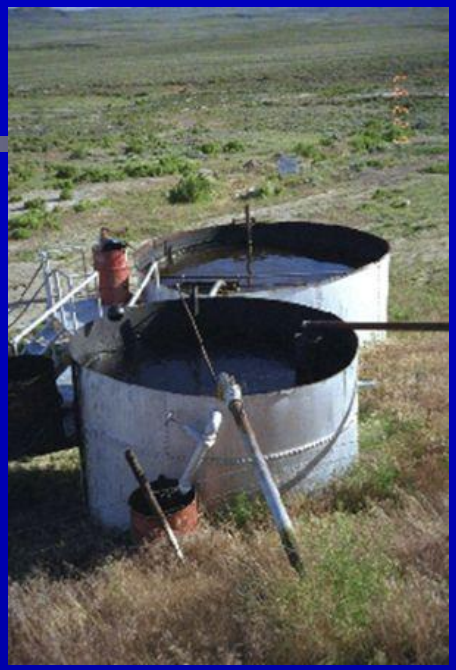
Definitions - Oil

- Oil, as defined in Section 311 (a)(1) of the CWA, can be of any kind or in any form including, but not limited to
  - Petroleum and non-petroleum based oils
  - Crude Oil
  - Refined Products
  - Animal Fats, and
  - Vegetable oils

Examples of Oil at Production, Drilling and Workover



- Produced water containing oil
- Crude oil
- Oily waste
- Fuel for drill rig
- Hydraulic oils

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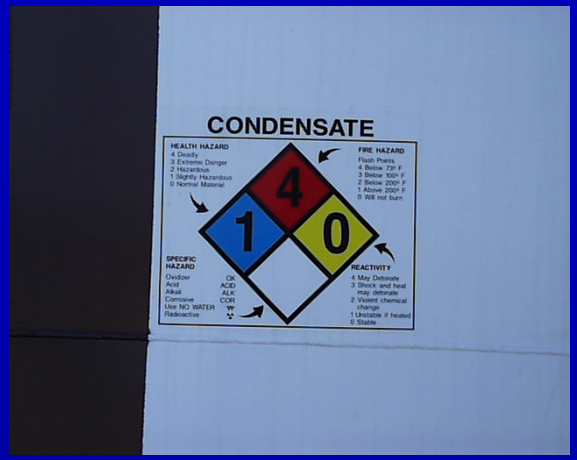
Examples of Oil at Production, Drilling and Workover



- Fuel storage for vehicles
- Lubrication oils (pumpjack)
- Oil in transformers
- Liquid oil condensate
- Oil based frac fluids
- Natural Gasoline

Navigable Waterways of the U.S. and Adjoining Shorelines

- Applicability of the SPCC rule is predicated on a reasonable expectation of discharge of oil to "navigable waters of the U.S. or adjoining shorelines"
- What are navigable waters of the U.S.? In general:
  - Surface waterways – streams, creeks, rivers, lakes
  - Wetlands adjacent to a navigable waterway
    - Nexus important
  - Can be intermittent streams. Best determination if flowing at least seasonally (3 months or more), depending on several factors (see Rapanos Guidance)
    http://www.epa.gov/owow_keep/wetlands/guidance/CWAwaters.html
  - Defined flow pathway to clearly navigable waters of the U.S. good start in determination – don't assume
- EPA has developed draft guidance on navigable waters of the U.S and adjoining shorelines.
  http://water.epa.gov/lawsregs/guidance/wetlands/CWAwaters.cfm

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Navigable Waters of the U.S. and Adjoining Shorelines Discussion

What is a "Reasonable Expectation of an Oil Discharge"?

- Initial determination by the owner/operator based on geographical and location aspects of the production facility
- You may consider proximity to water, land contour, drainage
- Exclude manmade features, such as secondary containment dikes around tanks and impoundments, in determination
- Good idea to document determination
  - Particularly if you conclude you are not subject to the rule
  - Not a rule requirement
- See Section 2.4 of SPCC guidance document

http://www.epa.gov/emergencies/docs/oil/spcc/guidance/2_Applicability.pdf

What the definition means...

- According to EPA guidance, the extent of a “facility” depends on site-specific circumstances:
  - Ownership, management, and operation of the buildings, structures, equipment, installations, pipes, or pipelines on the site;
  - Similarity in functions, operational characteristics, and types of activities occurring at the site;
  - Adjacency; or
  - Shared drainage pathways (e.g., same receiving water bodies).

Definition of Production Facility

- Revision clarifies that the definition of “production facility” is used to determine which sections of the rule apply at a particular facility (e.g., §112.9).
- Revised definition is consistent with the revision to the definition of “facility”.
- Clarifies the flexibility allowed in determining the boundaries of the facility.
- Clarifies that condensate is regulated.

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Amended Definition

Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or intra-facility gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil (including condensate), or associated storage or measurement, and is located in an oil or gas field, at a facility. This definition governs whether such structures, piping, or equipment are subject to a specific section of this part.

“Wet Gas” and “Dry Gas” Facilities

- Liquid condensate is an oil.
- A natural gas production facility may store condensate in quantities that meet the applicability criteria for the SPCC.
  - Considered a production facility (§112.9 applies).
  - Called a “wet gas production facility”
- EPA believes that a “dry gas production facility” is not an oil production, oil recovery, or oil recycling facility, as described in the clarification published May 25, 2004 (69 FR 29728)
  - Stores no condensate
  - SPCC requirements do not apply, so long as no other oil is stored at the facility to make it otherwise regulated

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Dry Gas and Produced Water Tank

Produced Water Container

- Produced water container means a storage container at an oil production facility used to store the produced water after initial oil/water separation, and prior to reinjection, beneficial reuse, discharge, or transfer for disposal
- Definition is used to determine which containers are eligible for alternative measures for produced water containers

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Produced Water Container

Produced Water Containers

Above left: Infrared photograph of a produced water storage tank with a two foot oil layer on top of water.

Permanently Closed

- *Permanently closed* means any container or facility for which:
  - All liquid and sludge has been removed from each container and connecting line;
  - All connecting lines and piping have been disconnected from the container and blanked off;
  - All valves (except for ventilation valves) have been closed and locked; and
  - Conspicuous signs have been posted on each container stating that it is permanently closed and noting the date of closure.

Permanently Closed

- SPCC rule exempts any oil storage container that is permanently closed.
  - A tank that has either never stored oil, or has been permanently closed, and arrives at a facility is not counted until the tank is actually used to store oil.
- Definition of "permanently closed" does not require a container to be removed from a facility.
  - Permanently closed containers may be brought back into use as needed for variations in production rates and economic conditions.

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Key SPCC Requirements

- Prepare Plan in accordance with Good Engineering Practices
- Full approval of management to implement Plan and sign off
- Follow sequence of Section 112.7, or use a cross-reference section

Key SPCC Requirements

- SPCC regulations requires preparation and implementation of a written Plan to address:
  - Operating procedures for routine handling of products to prevent a discharge of oil;
  - Discharge or drainage control measures to prevent a discharge of oil;
  - Countermeasures to contain, clean up, and mitigate an oil spill;
  - Methods of disposal of recovered materials; and
  - Contact list and phone numbers of company, contract response personnel, and National Response Center

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Professional Engineer (PE)

- Certified by a licensed PE, and attests:
  - PE familiar with 40 CFR Part 112
  - PE or agent visited facility
  - In accordance with good engineering practices
    - Consider applicable industry standards
    - In compliance with regulations
  - Inspection and testing procedures are established

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Professional Engineer (PE)

- Certified by a licensed PE, and attests:
  - Plan is adequate for facility
  - That, if applicable, for a produced water container subject to §112.9(c)(6), any procedure to minimize the amount of free-phase oil is designed:
    - To to reduce the accumulation of free-phase oil; and
    - Procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan

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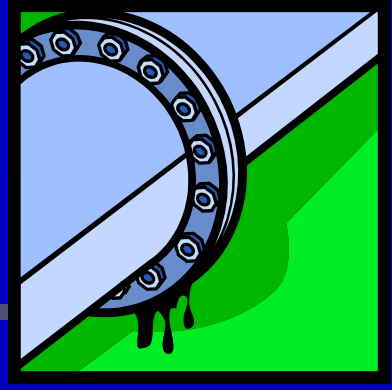
Failure Analysis



- Where experience indicates reasonable potential for equipment failure
  - Tank loading or unloading equipment
  - Tank overflow, rupture, or leakage
  - Any other equipment known to be a source of a discharge
- Predict for each type:
  - Direction (e.g., north, or to the road)
  - Rate of flow
  - Total quantity of oil that could be discharged

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Facility Diagram Requirement

Required elements:

- The location and contents of oil containers (>55 gallons)
- Completely buried tanks and gathering lines otherwise exempt
- Connecting piping
- Transfer stations

Recommended elements:

- Secondary containment
- Storm drain inlets and surface waters
- Direction of flow in the event of a discharge
- Legend – scale and symbols
- Location of response kits and firefighting equipment
- Location of valves or drainage system controls
- Compass direction
- Topographical information and area maps

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Facility Diagram Requirement

- Revision clarifies that the facility diagram must include all *fixed* (i.e., not mobile or portable) containers.
- For mobile or portable containers, the diagram must:
  - Identify a storage area on the facility diagram (e.g., a drum storage area).
  - Include a separate description of the containers in the storage area in the Plan, or reference facility inventories that can be updated by facility personnel.
  - Provide an estimate of the potential number of containers, types of oil, and anticipated capacities

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Amendment of SPCC Plan by Owners or Operators

- For changes in facility design, construction, operation, or maintenance that materially affect the potential for a discharge as described in 112.1(b)
  - Commissioning and decommissioning containers
  - Replacement, reconstruction, or movement of containers
  - Reconstruction, replacement, or installation of piping systems
  - Construction or demolition that might alter secondary containment structures
  - Changes in product or service
  - Revision of operating or maintenance procedures
- Amend within 6 months; implement ASAP, but no later than 6 months after amendment

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Plan Review

- Complete review and evaluation of Plan
  - Once every 5 years from the date facility becomes subject to the rule
  - If a facility was in operation on or before 8/16/2002, five years from the date of your last review required by the rule
  - Does not always require a PE
- Amend Plan within 6 months to include more effective prevention and control technology
- Implement ASAP, but no later than 6 months of amendment

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Documenting Plan Review

- Must document Plan review and evaluation
- Sign statement at beginning or end of Plan or in a log or an appendix
  - "I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result."
- PE must certify any technical amendment to Plan
  - Qualified Facilities exception

Key SPCC Requirements

- SPCC Plan must be maintained at facility if manned 4 hours/per day or more, or at nearest field office if manned less than 4 hours/per day
- Usual and customary business practices records serve as documentation of inspection or tests

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Inspections, Tests, and Records

- Conduct inspections and tests in accordance with written procedures developed by the facility or by the engineer who certifies the facility Plan
- Keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years

Environmental Equivalence

- Allows deviations from most technical requirements of the rule when equivalent environmental protection is provided and reasons for non-compliance explained
  - Does not include secondary containment, training, recordkeeping, and administrative provisions of the rule

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Training

- Train oil-handling personnel
  - Operation/maintenance of prevention equipment
  - Discharge procedure protocols
  - Applicable pollution control laws, rules, and regulations
  - General facility operations
  - Contents of the facility SPCC Plan
- Designate person accountable for discharge prevention and who reports to facility management
- Schedule/conduct at least one briefing/year:
  - Known discharges and failures, malfunctioning components, new precautionary measures

SPCC Containment Types

- General containment: Containment where sizing is not dictated by the rule provisions. Sized to address the *most likely oil discharge* from any part of a facility where oil is handled.
- Specific containment: Containment where sizing is dictated by specific rule provisions. Sized to address the w*orst case discharge for bulk containers and loading racks.*

General Secondary Containment

- Provide appropriate secondary containment and/or diversionary structures or equipment to prevent a discharge (from tanks, drums, totes, piping, etc.) to "navigable waters of the U.S. or adjoining shorelines"
- The entire system (walls and floor) must be capable of containing oil so that a discharge from containment will not occur until cleanup occurs

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General Secondary Containment

- One of the following preventive systems or its equivalent should be used as a minimum for onshore facilities:
  - Dikes, berms or retaining walls sufficiently impervious to contain spilled oil
  - Curbing or drip pans
  - Sumps and collection systems
  - Culverting, gutters or other drainage systems
  - Weirs, booms or other barriers
  - Spill diversion ponds
  - Retention ponds
  - Sorbent materials

Revision to General Secondary Containment Requirement

- Clarified that the general secondary containment requirement is intended to address the *most likely oil discharge* from any part of a facility
- Use of active and passive secondary containment, such as spill kits, allowed

New text: "… In determining the method, design, and capacity for secondary containment, you need only to address the typical failure mode, and the most likely quantity of oil that would be discharged. Secondary containment may be either active or passive in design."

- Modifies §112.7(c) to expand the list of example prevention systems for onshore facilities
  - Additional examples: drip pans, sumps, and collection systems

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Active Measures

- Can use active measures as secondary containment
- Active measures are those that require deployment or a specific action by an operator
  - These may be deployed either before an activity involving the handling of oil starts, or in reaction to a discharge
- Must be implemented in time to prevent the spilled oil from reaching surface waters
- Active measures may be difficult to implement at an unmanned production facility

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Active Measures

- May be appropriate for discharges that occur during manned activities if they:
  - Can contain the volume and rate of oil
  - Is properly constructed
  - Is deployed in a timely manner

- Examples include:
  - Using spill kits in the event of a discharge
  - Placing a properly designed storm drain cover over a drain prior to a transfer of oil to a container

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General Secondary Containment

- "General" Secondary Containment requirement applies to the following examples:
  - Christmas tree, wellhead, and stuffing box
  - Oil-filled equipment (transformers, pumpjacks, etc.)
  - Transfer areas
    - Piping runs/racks, manifolds, etc.
    - Flow and intra facility gathering lines
    - Truck loading/unloading areas (not loading rack)
- No specific-sized volume requirement
- Sizing based on typical spill size not container size

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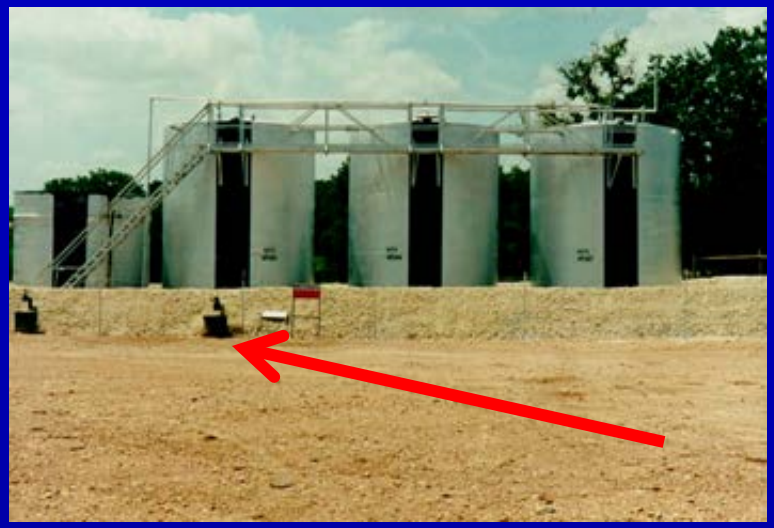
Areas Subject General Secondary Containment

Transfer areas subject to the general secondary containment requirement

Loading/Unloading Areas

- General secondary containment applies (no specific volume required) when there is a loading area
  - Note: loading racks have additional requirements
- You determine amount most likely to be spilled, then provide secondary containment for that volume



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Loading/Unloading Areas

Oil-Filled Operational Equipment

- 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
  - Not considered a bulk storage container
  - Does not include oil-filled manufacturing equipment
- Examples: hydraulic systems, lubricating systems, gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, other systems containing oil solely to enable the operation of the device

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Qualified Oil-Filled Operational Equipment

- Alternative to the general secondary containment requirements for qualified oil-filled operational equipment:
  - Prepare an oil spill contingency Plan and a written commitment of manpower, equipment, and materials
  - Have an inspection or monitoring program to detect equipment failure and/or a discharge (*112.7(k))*
- Must meet eligibility criteria

Qualified Oil-Filled Operational Equipment Eligibility Criteria

- For the 3 years prior to Plan certification, or since becoming subject to the Rule if it has operated for less than 3 years, the facility must not have had:
  - A single 112.1(b) discharge of oil from any oil-filled operational equipment exceeding 1,000 U.S. gallons; or
  - Two 112.1(b) discharges of oil from any oil-filled operational equipment each exceeding 42 U.S. gallons within any 12-month period.

The gallon amount(s) specified (either 1,000 or 42) refers to the amount of oil that actually reaches navigable waters of the U.S. and adjoining shorelines not the total amount of oil spilled. The entire volume of the discharge is oil for the purposes of this reporting requirement.

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Specific Secondary Containment Requirements for Production

- Secondary containment sized to the capacity of the largest single container with sufficient freeboard to contain precipitation
  - Applies to bulk storage containers at the tank battery, separation and treatment facilities, including, but not limited to:
    - Stock tanks,
    - Produced water containers,*
    - Separation equipment* (e.g., heater-treaters and separators)
  - If facility drainage is used as secondary containment for bulk storage containers, then drainage from undiked areas must be safely confined in a catchment basin or holding ponds

* The SPCC rule includes alternative measures for certain production equipment in lieu of sized secondary containment

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Specific Secondary Containment

- For Bulk Storage containers at production facilities, sized containment could be an earthen berm, concrete dike or earthen remote impoundment
  - See Chapter 4 of SPCC Guidance Document (Figures 4-5 and 4-6)

    http://www.epa.gov/emergencies/docs/oil/spcc/guidance/4_SecondaryContainment_Impracticability.pdf
  - Sample Calculation Worksheets are also available on the EPA Website (for Qualified Facilities)

    http://www.epa.gov/osweroe1/content/spcc/tier1temp.htm#sec

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Sufficient Freeboard Design Standard

- EPA did not set a standard requirement for freeboard capacity (e.g., freeboard to contain precipitation from a 25-year, 24-hour storm event or 110% of storage tank capacity)
  - The 25-year, 24-hour storm event was a preamble recommendation based on a RCRA requirement, and is not an SPCC requirement
- The proper method of design is a matter of good engineering practice
- The requirement is based on containment of oil and rainfall, not a percentage of the tank's size
  - The "110% of storage tank capacity" rule-of-thumb may be a potentially acceptable design criterion in many situations, but in some cases it may not be

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Sufficient Freeboard Capacity Determination

- Factors to consider
  - Local precipitation conditions (rainfall and/or snowfall)
  - Height of existing dike wall
  - Size of tank/container
  - Safety considerations
  - Frequency of dike drainage and inspection
  - Displacement due to other tanks and/or equipment in the containment area
- The certifying PE determines what is “sufficient freeboard” and should document this determination with supporting calculations in the SPCC Plan

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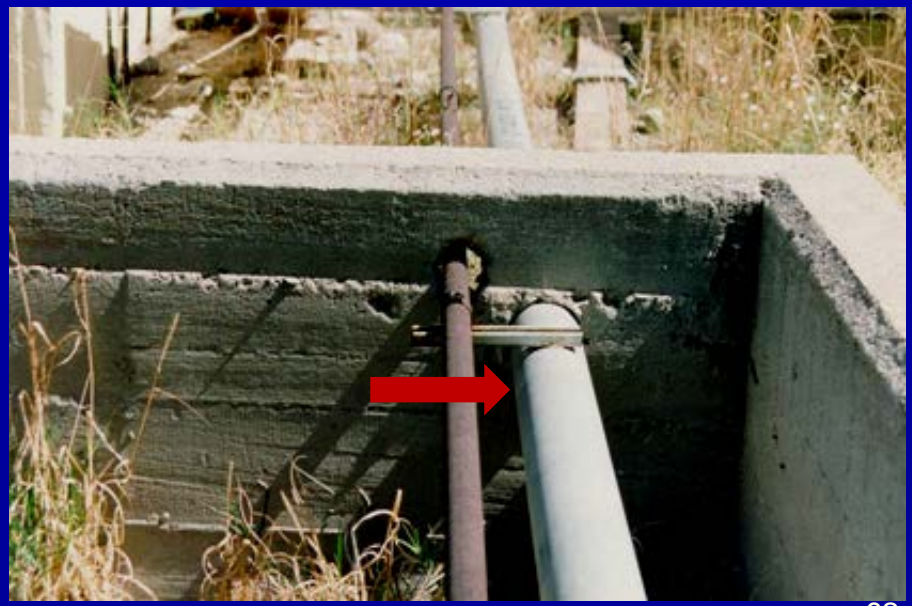

Tank Truck Loading/Unloading Rack

- **Secondary Containment is required for a loading rack**
  - Must be sized to volume of the single largest compartment on tank truck
  - Physical barrier system, wheel chocks, warning signs, etc. required
  - Examination of the trucks lowermost drains, outlets
  - Typically production facilities do not have this type of equipment to load trucks

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Section 2.

Oil Production, Drilling and Workover Facility Requirements Overview

Overview of Rule Revisions Related to Oil Production Facilities

- EPA streamlined, tailored, and clarified requirements for oil production facilities including:
  - Definition of Production Facility
  - SPCC Plan Preparation and Implementation Timeframe
  - Flowlines and Intra-facility Gathering Lines
  - Flow-through Process Vessels
  - Produced Water Containers
  - Oil and Natural Gas Pipeline Facilities
  - Definition of “Permanently Closed”

General Requirements Applicable to ALL Facilities

- Production facilities must meet general requirements under 112.7
  - Except the security requirement (112.7(g))
  - Except general containment requirement (§112.7(c)) for certain flowlines and gathering lines

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Which rule section applies - §112.8 or §112.9?

- 2008 Amendment Preamble Clarification:
  - Only the infrastructure, containers and equipment uniquely associated with the production of crude oil is subject to the specific requirements for a production facility (§112.9).
    - Containers, equipment, and piping containing crude oil used in the production, extraction, recovery, lifting, stabilization, separation or treatment of oil or gas condensate, or their associated storage or measurement are included.
  - All other infrastructure or equipment that indirectly support crude oil production must meet the specific bulk storage requirements under §112.8

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API Gas Plant Letter

- On December 10, 2010, EPA provided guidance to API regarding the applicability of the SPCC rule to gas plants and gas compression stations
- Gas plants are generally not considered oil production facilities under the SPCC rule and are therefore subject to the facility specific requirements under 40 CFR part 112.8 rather than 112.9.
- As with gas plants, gas compression stations are not generally considered oil production facilities under the SPCC rule and are therefore subject to the facility specific requirements under 40 CFR part 112.8 rather than 112.9.

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112.9 SPCC Requirements for Onshore Production Facilities

- Outlines specific requirements (in addition to general requirements in §112.7) for onshore production facilities regarding:
  - Facility drainage
  - Bulk storage containers
  - Facility transfer operations, pumping, and facility process

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SPCC Plan Preparation and Implementation Timeframe

- A new oil production facility has six months after the start of operations to prepare and implement an SPCC Plan.
  - A new oil production facility is one that becomes operational after November 10, 2010 (offshore or FRP) or November 10, 2011 (onshore).
  - "Start of operations" is indicated by the start of well fluid pumping, transfer via flowlines, separation, treatment or storage of crude oil, or other oil storage in capacities greater than the SPCC applicability threshold.

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SPCC Plan Preparation and Implementation Timeframe

- Oil production facilities are likely to stabilize within six months after the start of operations.
  - Applicable only to oil production facilities due to their unique characteristics of variable and uncertain initial flowrates
- Amendment does ***not*** apply to:
  - An existing production facility in which a new well is drilled—facility owner/operator must amend SPCC Plan within 6 months in accordance with 112.5(a)
  - Drilling or workover activities at a production facility—drilling and workover operations are subject to requirements at 112.3(c)

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Production Facility Drainage

- At tank batteries and separation and treating areas
  - Close and seal at all times drains of dikes (or drains of equivalent measures) where there is a reasonable possibility of a discharge
  - Often dikes areas not equipped with valve and are drained manually by a pump.
- Prior to drainage, must inspect diked area and take action according to §112.8(c)(3)
  - Inspect retained rainwater to ensure it will not be discharged in harmful quantities
  - Supervise open bypass valve, and reseal after drainage is complete
  - Keep adequate records of such events

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Production Facility Drainage

- Remove accumulated oil on the rainwater and return it to storage or dispose of it in legally approved method
- Oil field drainage
  - Inspect at regularly scheduled intervals for an accumulation of oil that may have resulted from any small discharge
  - Promptly remove any accumulations of oil


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Bulk Storage Containers at Production Facilities

Container compatibility (112.9(c)(1)):

Do not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage

Bulk Storage Containers at Production Facilities §112.9(c)(2)

- For all bulk containers in the tank battery, separation and treatment facilities satisfy the sized containment requirement (sized to largest container plus freeboard for precipitation); or
- For process vessel and/or produced water containers, you may meet the alternative compliance requirements
- For oil containers that directly support production operations at a production facility but are not a part of a tank battery, or separation, and treatment equipment, then follow §112.7(c) for secondary containment requirements
- If the bulk container does not support production operations then the §112.8 requirements apply

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Bulk Storage Container Inspections at Production Facilities

- Visual Inspection (112.9(c)(3))
- Periodically and upon a regular schedule visually inspect each container for deterioration and maintenance needs
- Include the foundation and support of each container that is on or above the surface of the ground

EPA

Bulk Storage Containers at Production Facilities

- Engineer according to good engineering practice to prevent discharges (112.9(c)(4)), providing at least one of the following:
  - Ensure the container capacity is adequate to prevent overfill if a pumper/gauger is delayed in making regularly schedule rounds
  - Provide overflow equalizing lines between containers so that a full container can overflow to an adjacent container
  - Provide vacuum protection that is adequate to prevent container collapse during a pipeline run or transfers
  - Provide high level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system

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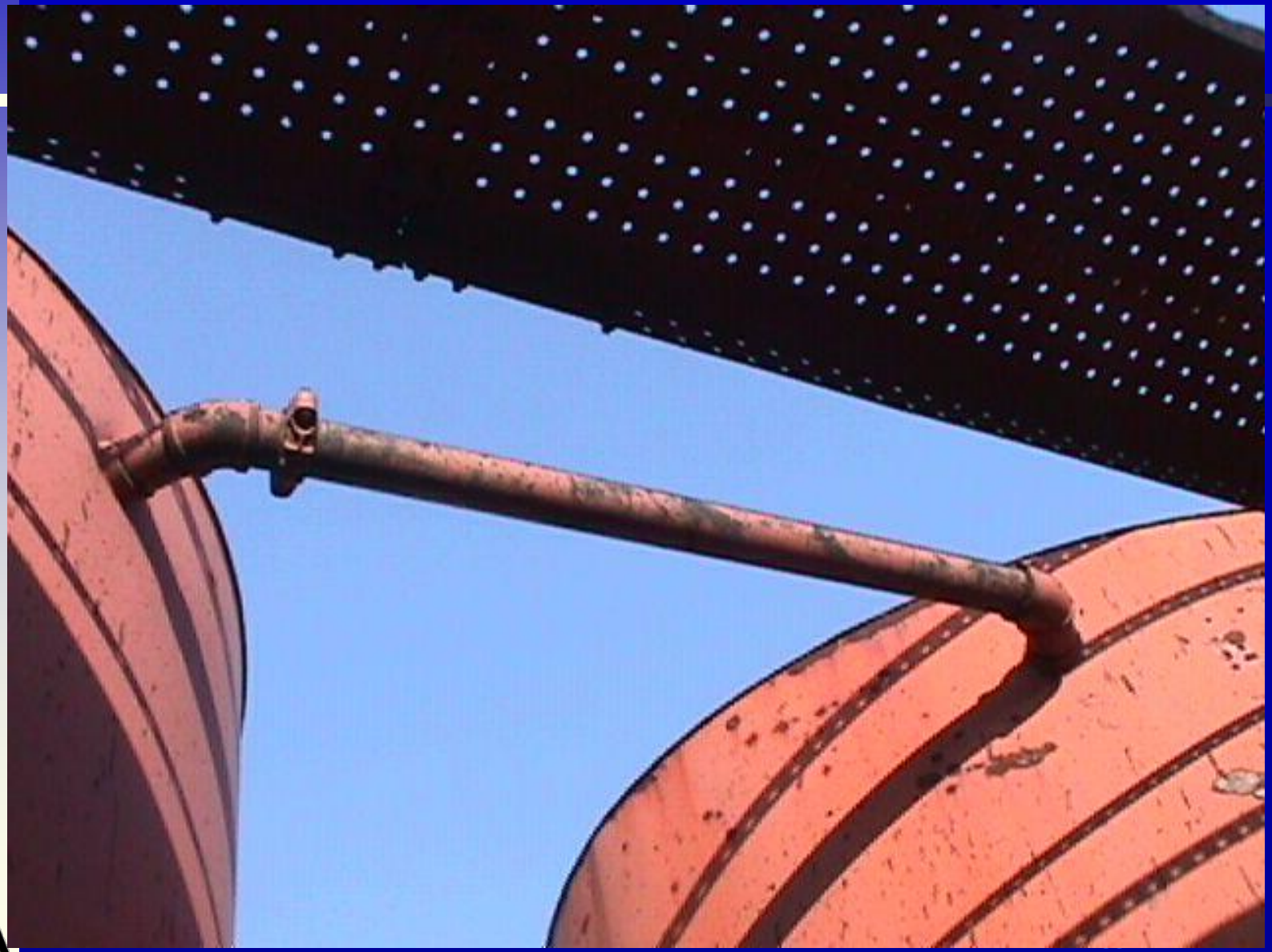
Equalizing Line



Flow-through Process Vessels

- What is a flow-through process vessel at an oil production facility?
  - Has the primary purpose of separating the oil from other fractions (water and/or gas) and sending the fluid streams to the appropriate container
  - Can be horizontal or vertical separation vessels (e.g., heater-treater, free-water knockout, gun-barrel, etc.)

EPA

Compliance Alternative: Flow-Through Process Vessels

- Either comply with sized secondary containment for flow-through process vessels (separation equipment), or, in the alternative:
  - Visual inspection and/or testing on a periodic and regular schedule
  - Corrective action or repairs
  - Prompt removal or initiation of actions to stabilize and remediate any accumulations of oil discharges
- General secondary containment requirements still apply.

If the facility discharges to navigable waters or adjoining shorelines:

- 1,000 U.S. gallons of oil in a single discharge, or
- 42 U.S. gallons of oil in each of two discharges within a 12 month period

from a flow-through process vessel, then the facility owner/operator may no longer take advantage of this alternative option and must comply with the sized secondary containment requirements at 112.9(c)(2) and inspection requirements at 112.9(c)(3) within six months of discharge.

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Compliance Alternative: Produced Water Containers

- Instead of providing sized secondary containment for produced water containers, a facility owner/operator can:
  - Have a PE certify a procedure for each produced water container that is designed to separate the free-phase oil that accumulates on the surface of the produced water, that is implemented on a regular schedule;
  - Conduct visual inspections, maintenance and corrective action;
- General secondary containment requirements still apply

If the facility discharges to navigable waters or adjoining shorelines:

- 1,000 U.S. gallons of oil in a single discharge, or
- 42 U.S. gallons of oil in each of two discharges within a 12 month period

from a produced water container, then the facility owner/operator may no longer take advantage of this alternative option and must comply with the sized secondary containment requirements at §112.9(c)(2) and inspection requirements at §112.9(c)(3) within six months of the discharge.

EPA

Procedure to Remove Oil from Produced Water Containers

- A procedure designed to remove free-phase oil that accumulates on the surface of the produced water container
  - Implemented on a regular schedule
  - General secondary containment must be able to address the amount of oil in the produced water container
- SPCC Plan must include:
  - Description of the free-phase oil separation and removal;
  - Frequency it is implemented;
  - Amount of free-phase oil expected to be inside the container; and
  - Description of the general secondary containment
- Owner or operator must keep records of the implementation of these procedures in accordance with §112.7(e).

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PE Certification

- PE attests that Plan is prepared in accordance with good engineering practices and includes a provision certifying that:
  - An oil removal procedure for produced water containers is designed to reduce the accumulation of free-phase oil, and
  - The procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan.

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Flowlines and Intra-facility Gathering Lines

- What is a flowline?
  - Flowlines are piping that transfer crude oil and well fluids from the wellhead to the tank battery and from the tank battery to the injection well.
- What is a gathering line?
  - Gathering lines transfer crude oil product between tank batteries, within or between facilities.
  - Any gathering lines within the boundaries of a facility are "intra-facility gathering lines" and within EPA's SPCC jurisdiction.
  - Gathering lines often originate from an oil production facility's lease automatic custody transfer (LACT) unit.
- "Flowline" and "gathering line" are not defined in the rule.

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Flowlines and Gathering Lines

Compliance Alternative: Flowlines

- Secondary containment is often impracticable for flowlines and intra-facility gathering lines
- SPCC rule provides an optional alternative to general secondary containment
- Instead of secondary containment for flowlines and intra-facility gathering lines, rule requires:
  - Implementation of an oil spill contingency plan in accordance with 40 CFR part 109
  - Written commitment of manpower, equipment, and materials to control and remove any quantity of oil discharged that may be harmful
  - Flowline/intra-facility maintenance program meeting the new rule requirements.
- Secondary containment may still be used instead

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Exemption for Certain Gathering Lines

- Gathering lines that are subject to the DOT regulatory requirements at 49 CFR parts 192 or 195 are exempt from the SPCC requirements.
  - Exemption is for intra-facility gathering lines present at a facility where the piping is subject to both EPA and DOT jurisdiction and regulations.

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Flow and Intra-Facility Gathering Line Maintenance Program

- Requirements for flowline and intra-facility gathering line maintenance program were made more specific.
- Before the 2008 amendments, the rule required, under §112.9(d)(3), to “have a program of flowline maintenance”

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Flow and Intra-Facility Gathering Line Maintenance Program

- The maintenance program must address procedures to:
  1) Ensure compatibility with the type of production fluids, their potential corrosivity, volume, and pressure, and other conditions expected in the operational environment
  2) Visually inspect and/or test on a periodic and regular schedule for leaks, oil discharges, corrosion, or other conditions that could lead to a discharge as described in §112.1(b)
  3) Take corrective action or make repairs as indicated by regularly scheduled visual inspections, tests, or evidence of a discharge
  4) Promptly remove or initiate actions to stabilize and remediate any accumulations of oil discharges associated with flowlines, intra-facility gathering lines, and associated appurtenances

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Transfer Operations – Aboveground Valves and Piping

- Inspect, periodically and upon a regular schedule, for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves and other such items

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Transfer Operations – Saltwater Disposal Facilities

- Inspect saltwater (oil field brine) disposal facilities often to detect possible system upsets capable of causing discharge

- Particularly following a sudden change in atmospheric temperature

Onshore Drilling and Workover Requirements

Onshore Drilling and Workover Requirements

- Meet general requirements listed under 40 CFR 112.7, and:
- Position or locate mobile drilling or workover equipment so as to prevent a discharge

112.10(b)

Onshore Drilling and Workover Requirements

- Provide catchment basins, reserve pits, or diversion structures to contain any spill of oil or oily fluids (drilling mud)

112.10(c)

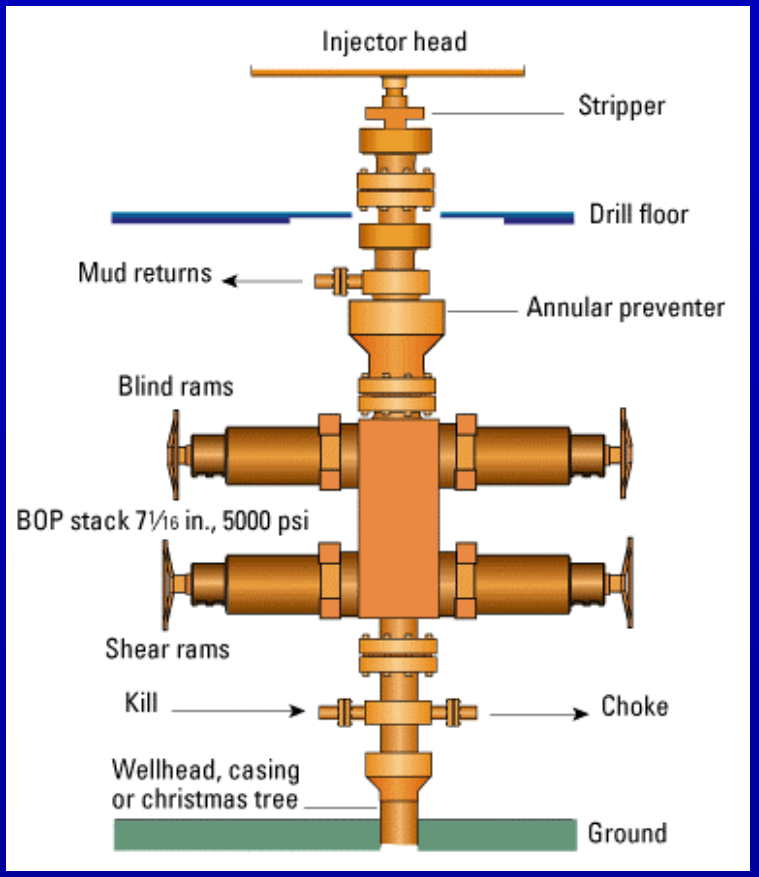
Onshore Drilling and Workover

- No specific sizing requirement, and no freeboard requirement for secondary containment

112.10(c)

Onshore Drilling and Workover

- Install a Blow Out Prevention (BOP) assembly and well control system
- The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered



112.10(d)

Impracticability for Onshore Drilling or Workover Equipment

- The facility owner/operator may determine that it is impracticable to provide secondary containment in accordance with §112.10(c) or §112.7(c)
- Per §112.7(d), the SPCC Plan must:
  - Clearly explain why secondary containment is not practicable
  - Document how the additional regulatory requirements of §112.7(d) are implemented

Section 3.

Compliance Date Extension

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SPCC Rule Compliance Dates

- On October 7, 2010, EPA extended the compliance date to most facilities from November 10, 2010 to...

Current Compliance Dates for Facilities

A facility starting operation…	Must…
On or before August 16, 2002	• Maintain existing SPCC Plan • Amend and implement the SPCC Plan no later than November 10, 2011.
After August 16, 2002 through November 10, 2011	• Prepare and implement the SPCC Plan no later than November 10, 2011.
After November 10, 2011	• Oil Production Facilities: Prepare and implement an SPCC Plan within six months after beginning operations • Drilling and Workover Facilities: Prepare and implement an SPCC Plan before beginning operations

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Current Compliance Dates for Certain Offshore and FRP-subject Facilities

A drilling, production or workover facility, including a mobile or portable facility, located offshore or with an offshore component; or an onshore facility that is required to have and submit FRPs...	
An above facility starting operation...	Must...
On or before August 16, 2002	• Maintain existing SPCC Plan • Amend and implement the SPCC Plan no later than November 10, 2010.
After August 16, 2002 through November 10, 2010	• Prepare and implement the SPCC Plan no later than November 10, 2010.
After November 10, 2010	• Oil Production Facilities: Prepare and implement an SPCC Plan within six months after beginning operations • Drilling and Workover Facilities: Prepare and implement an SPCC Plan before beginning operations

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Section 4.

Additional Information

Outreach Tools

- General SPCC Blue Book on website
- SPCC Brown Book (in the works)
- SPCC Guidance for Regional Inspectors
  http://www.epa.gov/emergencies/content/spcc/spcc_guidance.htm
- **HOTLINE**: Superfund, TRI, EPCRA, RMP, and Oil Information Center (800) 424-9346
- A production webpage

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SPCC Blue Book

- Available at:
  http://www.epa.gov/oem/docs/oil/spcc/spccbluebroch.pdf

Reporting of Oil Spills

- Report all oil discharges to navigable waters of the U.S. or adjoining shorelines to NRC at 1-800-424-8802
- Federal government's centralized reporting center, which is staffed 24 hours a day by U.S. Coast Guard personnel
- Any person in charge of a vessel or an onshore or offshore facility must notify NRC immediately after he or she has knowledge of the discharge
- NRC relays information to EPA or U.S. Coast Guard depending on the location of the incident
- An On-Scene Coordinator evaluates the situation and decides if federal emergency response action is necessary

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Specific SPCC Spill Reporting Requirements

- Report to the EPA Regional Administrator (RA) when there is a discharge of:
  - More than 1,000 U.S. gallons of oil in a single discharge to navigable waters of the U.S. or adjoining shorelines
  - More than 42 U.S. gallons of oil in each of two discharges to navigable waters of the U.S. or adjoining shorelines within a 12-month period
  - When making this determination it is the amount of the discharge in gallons that reaches navigable waters of the U.S. or adjoining shorelines
  - An owner/operator must report the discharge(s) to the EPA Regional Administrator within 60 days

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For More Information

- EPA's SPCC web page
  - http://www.epa.gov/emergencies/content/spcc/index.htm
- EPA Oil Spill and Emergency Management web pages
  - www.epa.gov/oilspill
  - www.epa.gov/emergencies
- **HOTLINE**: Superfund, TRI, EPCRA, RMP, and Oil Information Center
  - (800) 424-9346 or (703) 412-9810
  - TDD (800) 553-7672 or (703) 412-3323
  - www.epa.gov/superfund/resources/infocenter

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Questions?

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