Introduction

The purpose of this training is two-fold...

1. To meet the requirements for training under the SPCC Requirements in:
   - the operation and maintenance of equipment & response procedures;
   - applicable pollution control laws, rules, and regulations;
   - general facility operations; and the contents of a facility’s SPCC Plan
2. To better prepare you for your role in the prevention of spills and to protect the environment.
The U. S. Environmental Protection Agency (EPA) Oil Pollution Prevention Regulation, Title 40, Code of Federal Regulations, Part 112 (40 CFR 112), addresses non-transportation related facilities.

The main requirement of facilities is the preparation and implementation of a Plan to prevent any discharge of oil into waters of the United States. Such a Plan is referred to as a Spill Prevention, Control, and Countermeasure (SPCC) plan.

SPCC regulation is "prevention" of a discharge as opposed to "after-the-fact" (or "reactive") cleanup measures commonly described in discharge contingency plans.

The regulation applies to any onshore or offshore facility providing that all three of the following conditions are met:

- The facility is non-transportation-related and
- The aggregate aboveground storage capacity is greater than 1,320 gallons (31 bbls), with a container capacity of 55 gallons, or the total underground storage capacity is greater than 42,000 gallons* (1000 bbls) and
- Oil discharged at the facility could reasonably be expected to reach waters of the United States or adjoining shorelines.
General SPCC Requirements

§ 112.7 General SPCC Requirements

Applicability Flowchart

Click on the Pause Control Below to Review

General SPCC Requirements

New Compliance Dates

A facility starting operation... Must...

| On or before 8/16/02 | Maintain existing SPCC Plan
| After 8/16/02 through 7/1/09 | Amend and implement Plan no later than 7/1/09
| After 7/1/2009 | Prepare and implement a Plan no later than 7/1/09
|                   | Prepare and implement a Plan before beginning operations

Prepare and implement a Plan no later than 7/1/09

On or before 8/16/02

After 8/16/02 through 7/1/09

After 7/1/2009

Prepare and implement a Plan before beginning operations

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Active Measures can include:
- 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 from an area prior to a discharge.

General SPCC Requirements

Contingency Plan Option
- If the facility determines that the installation of the structures or pieces of equipment listed as acceptable means for providing secondary containment for storage containers and facility tank car and tank truck loading/unloading areas to prevent a discharge as described in are not practicable, the facility must explain in the Plan why such measures are not practicable;

Active Measures vs. Contingency Plan
- Active secondary containment requires a deployment action; it is put in place prior to or immediately upon discovery of an oil discharge.
- The purpose of these measures is to contain an oil discharge before it reaches navigable waters or adjoining shorelines.
- A contingency plan is a detailed oil spill response plan developed when any form of secondary containment is determined to be impracticable.
- The purpose of a contingency plan should be both to outline response capability or countermeasures to limit the quantity of a discharge reaching navigable waters or adjoining shorelines, and to address response to a discharge of oil that has reached navigable waters or adjoining shorelines.
Contingency Plan Option

For bulk storage containers:
- Conduct both periodic integrity and leak testing of the valves and piping; and provide the following:
- An oil spill contingency plan; and
- Provide a written commitment of manpower, equipment, and materials to control and remove any harmful quantity of oil discharged.

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.
- Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this requirement.

Personnel, Training, and Discharge Prevention Procedures

- Train facility oil-handling personnel in:
  - the operation and maintenance of equipment response procedures;
  - applicable pollution control laws, rules, and regulations;
  - general facility operations; and
  - contents of the facility SPCC Plan.
General SPCC Requirements

Personnel, Training, and Discharge Prevention Procedure

- Designate a person accountable for discharge prevention.
- Schedule and conduct discharge prevention briefings for facility oil-handling personnel at least once a year.

General SPCC Requirements

Transfer Areas

- Areas where oil is transferred but no loading or unloading rack is present (load lines)
- Secondary containment size should be based on the magnitude of a most likely discharge.
- Determination of adequate secondary containment should consider:
  - The reasonably expected sources and causes of a discharge
  - The reasonably expected maximum rate of discharge
  - The ability to detect and react to the discharge
  - The reasonably expected duration of the discharge
  - The time it would take a discharge to impact navigable waters or adjoining shorelines

General SPCC Requirements

Bulk Storage Containers

- Material and construction are compatible with the material stored and conditions of storage
General SPCC Requirements

Secondary containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation.

MCA facility design procedures call for secondary containment designed to hold 150% plus two (2) inches freeboard.

The facility must ensure that diked areas are sufficiently impervious to contain discharged oil and engineered in accordance with approved professional engineering and acceptable industry standards.

General SPCC Requirements

Bulk Storage Containers

Test for integrity on a regular schedule, and whenever material repairs are made.

At a minimum conduct a Visual Inspection

Other testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing can be used. Comparison records of such testing must be kept.

General SPCC Requirements

Facility Drainage

Close and seal at all times drains of dikes or equivalent measures required, except when draining uncontaminated rainwater.

Remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.
General SPCC Requirements

Drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system is not allowed unless:

(i) The bypass valve is normally kept locked and sealed closed;
(ii) The retained rainwater is inspected to ensure that its presence will not cause a violation of unauthorized discharge
(iii) The bypass valve is opened and resealed and locked following drainage under responsible supervision during the entire discharge
(iv) Adequate records are kept of such events.

General SPCC Requirements

This is a photo of an acceptable drainage techniques. Remember, the draining of the secondary containment has to be supervised during the discharge.

General SPCC Requirements

Inspect at regularly scheduled intervals field drainage systems (such as drainage or road ditches) and oil traps, sumps, or skimmers, for accumulations of oil. Promptly remove any accumulations of oil.
General SPCC Requirements

If you are the owner or operator of an onshore production facility, you must:

Meet the general requirements for the Plan and the specific discharge prevention and containment procedures listed in this section.

Secondary containment requirements apply to tanks, vessels, and containers in the tank battery, separation vessels, heater treaters, and treatment areas.

Requirements do not apply to the entire lease area.

If secondary containment is impracticable, owners or operators of unmanned facilities may need to determine how to effectively implement a contingency plan.

This may involve additional site inspections, or some other method as determined appropriate by a Professional Engineer.
Requirements for Oil Water Separators (OWS) Used in Oil Production

- Onshore oil production must have secondary containment designed to contain the capacity of the largest single container and sufficient freeboard to contain precipitation.
- Offshore oil production to prevent a discharge of oil.

Oil/water separators used in oil production count towards the total storage capacity of the facility and should be included when determining if a facility is regulated by the SPCC rule.

General SPCC Requirements

Bulk Storage Containers

- Focus of the separation process is on removing water from oil, as opposed to removing oil from water.
- Considered a bulk storage container subject to specific secondary containment requirements.
- Vessels and equipment (glycol dehydrators, inline heaters) which treat only gas are not subject to the SPCC rule.

Flowline Maintenance

- Aims to manage the oil production operations in a manner that reduces the potential for a discharge.
- No industry standard for flowline maintenance has been developed.
General SPCC Requirements

A Flowline Maintenance Program Should Include...

- **General Spill Prevention**
  - Equipment is configured and operated to prevent discharges
  - Adequate supports and signage to help prevent mechanical damage to aboveground flow lines
  - Proper operation of safety devices such as low-pressure sensors and safety shut-down valves

- **Corrosion Protection**
  - Internal corrosion prevention through the use of compatible materials
  - External corrosion prevention through the use of compatible materials, coatings/wrappings, and/or cathodic protection

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General SPCC Requirements

**Flowline Maintenance**

**Periodic Examination**

- Visual inspection of the flowlines by facility personnel
- Should cover the piping, flange joints, valves, drip pans, and supports
- Look for signs of corrosion, deterioration, leakage, malfunction, and other problems that could lead to a discharge
- Frequency of inspections can vary according to their scope, the presence of secondary containment, and the detection capability needed to ensure prompt implementation of a contingency plan
- May be supplemented by periodic integrity testing using non-destructive evaluation methods

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General SPCC Requirements

**Flowline Maintenance**

**Flowline Replacement and Recordkeeping**

- Plan should describe how the flowlines are configured, monitored, and maintained to prevent discharges
- Facility personnel responsible for maintenance of the equipment should be aware of the flowline locations and be familiar with maintenance procedures
- Records of inspections and tests should be kept under usual and customary business practice
General SPCC Requirements

MCA Rigs

All SPCC requirements are the responsibility of the owner and operator of the drilling or workover rigs.

SPCC Plan

There is no rigid format for an SPCC plan.

The SPCC plan must be carefully thought out, prepared in accordance with SPCC requirements and good engineering practices, and approved by management at a level with the authority to commit the resources necessary to implement the Plan.
The SPCC plan should clearly address three areas:

- Operating procedures to prevent the occurrence of oil discharges
- Control measures to prevent a discharge from entering navigable waters
- Countermeasures to contain, clean up, and mitigate the effects of an oil discharge that impacts navigable water

**Written Plan**

Prepare a Plan in Accordance with Good Engineering Practices

- Full approval of management
  - Authority to commit the necessary resources
  - Signed statement

A SPCC Plan must include a complete discussion of the facility’s conformance with the applicable requirements.

Comply with all applicable requirements as defined and outlined in EPA Part 112 (40 CFR 112).

The SPCC Plan may deviate if equivalent environmental protection by some other means of spill prevention, control, or countermeasure is provided, and the reasons for nonconformance and the alternate methods to be used are described in detail in the SPCC Plan, as well as how they will achieve equivalent environmental protection.
**SPCC Plan**

Description of the physical layout of the facility and include a diagram that:

- location, type, and contents of each container;
- all transfer (loading and unloading) stations and connecting piping;
- the location of any completely buried storage tanks that are otherwise exempted from the SPCC regulation; and

The diagram should provide sufficient detail for:

- Facility personnel to undertake prevention activities
- EPA to perform an effective inspection
- Responders to take effective measures

**Piping**

Facility diagram must include all transfer stations and connecting pipes. Complex systems may be represented in a less detailed manner.

- As long as more detailed drawing of pipes (blueprints, engineering diagrams) are maintained at the facility

Also may be acceptable:

- Schematic representations that provide a general overview of the piping service
- Overlay diagrams showing different portions of the piping system

**AMENDMENTS TO THE SPCC PLAN**

Once an SPCC plan has been developed, it may be amended by the U. S. EPA Regional Administrator under certain circumstances or by the facility owner or operator.

The Regional Administrator may require amendments to the Plan following:

- a single discharge at the facility in excess of 1,000 gallons (24 bbls), or
- following two discharges of more than 42 gallons (1 bbl) that occur within any 12-month period and are reportable under the Federal Water Pollution Control Act.
AMENDMENTS TO THE SPCC PLAN

The SPCC regulation requires the owner or operator to amend the Plan whenever there is a change in facility
- design,
- construction,
- operation, or
- maintenance
that materially affects the facility’s potential for discharging oil.

Such amendments must be fully implemented as soon as possible, but not later than 6 months after the change occurs.

Within 6 months following the review, the owner or operator may amend the Plan to incorporate more effective control and prevention technology if the technology will significantly reduce the likelihood of a release and the technology has been field proven at the time of the review.

All technical amendments and 5 year reviews must be certified and signed by a licensed Professional Engineer.

The complete SPCC plan, which must either follow the sequence outlined in the general requirements as outlined in the Rule based on specific facility type, or cross reference all of these requirements, must include a discussion of the facility’s site-specific conformance with the relevant guidelines in the regulation.

A copy of the entire SPCC plan must be maintained at the facility if the facility is normally attended at least 4 hours per day or at the nearest field office if the facility is not so attended.

The SPCC plan must be made available to the EPA Regional Administrator or to a duly authorized representative for on-site review during normal working hours.
SPCC Plan Elements

EPA no longer requires the SPCC plan to include a history of oil discharges, although having this information in the plan would be helpful. If the owner/operator of a facility opts to include a history of oil discharges, the following information should be included:

1. Type and amount of oil discharged
2. Location, date, and time of discharges
3. Watercourse affected
4. Description of physical damage
5. Cost of damage
6. Cost of cleanup
7. Cause of discharge
8. Action taken to prevent recurrence

Containment Calculations

Example

Sample secondary containment calculations, for multiple tanks in a containment area...continued

Click on the Pause Control Below to Review
**Containment Calculations**

Sample secondary containment calculations, for multiple tanks in a containment area...continued

3. Calculate the amount of available floodwater provided by the dike, given the net dike capacity:

   - The available floodwater volume is:
     - the available floodwater volume within the dike
     - the available floodwater volume outside the dike
     - the available floodwater volume provided by the dike height

   Therefore, the dike provides sufficient floodwater for 10 inches of precipitation.

**Expedited Enforcement Program**

Cannot be used if no secondary containment for bulk containers.

NO reportable discharge.

Fines- $400 - $2,500

Set $ amount for each violation;
Traditional Penalty

Up to $32,500 per day for each day of violation or $1,100 per barrel.

Class I – up to $32,500;
Class II - $32,501 to $157,500;
Referral - $157,501+ (may be used for lesser amounts if injunctive relief is required).

SPCC Enforcements

Fines- Class

SPCC Inspection

When an SPCC inspector visits your facility, a few things can make the inspection proceed more smoothly.

• The inspector will announce him/herself and ask for the person responsible for the facility SPCC plan.
• The inspector should be directed to a person who can present the inspector with the written SPCC plan and answer questions about the plan.
• The inspection will start with the Inspection/Plan Review. Important information for the completion of this form includes the facility address and phone number, owner or operator address and phone if different, a company contact, and a brief synopsis of the facility operations.

The facility contact will be asked to sign the acknowledgment form, and a copy will be given to him/her as a record of the inspection.

SPCC Inspection

The inspection is an evaluation of the effectiveness of your written SPCC plan and the application of that plan at your facility.

The SPCC plan must have been reviewed and certified by a licensed Professional Engineer (PE), and the inspector will want to see the PE’s attestation, registration number, signature, and seal on the plan.

The plan must also contain documentation verifying that the Plan was reviewed every 5 years.

In addition, the Inspector will want to verify if the Plan has been amended as required and that the technical amendments were certified by a licensed PE.
SPCC Inspection

After reviewing the written plan, the inspector will conduct a site tour and ask specific questions regarding the implementation of the facility Plan.

Other information that will be helpful include a site map, a list of containers and their storage capacity, and the location of the nearest navigable waters, storm sewers etc.

Any questions regarding the inspection can be posed to the inspector/OSC in charge of the inspection.

SPCC Amendments 2008

This material was designed to give you a basic understanding of the mandates prescribed by the EPA for the decision process. It is important that you do not rely on just the information you have reviewed.

Putting emphasis on this is the fact as we developed this program new terminology and EPA guidance was delivered which we have added in these additional slides.

Remember, change is constant, and it is up to you to seek out these with constant vigilance and professionalism.

CONTACT your HES Environmental Representative for updated information and/or to make sure you “Get it Right”.

SPCC Inspection

SPCC Amendments 2008
### SPCC Amendments 2008

#### Qualified Facilities
- Must meet eligibility criteria to use alternative option
- Streamlined regulatory requirements
  - Self-certified SPCC Plan instead of one reviewed and certified by a Professional Engineer
  - Streamlined integrity testing requirements
  - Streamlined facility security requirements
- May also use qualified oil-filled operational equipment option since an impracticability determination by a PE is not necessary

#### Qualified Facilities Eligibility Criteria
- Facility must have 10,000 gallons (238 bbls) or less in aggregate aboveground oil storage capacity
- 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 discharge of oil to navigable waters exceeding 1,000 U.S. gallons (24 bbls), or
  - Two discharges of oil to navigable waters each exceeding 42 U.S. gallons (1 bbl) within any 12-month period

### SPCC Amendments 2008

#### Oil Production Facilities
- Since its original promulgation in 1973, the SPCC rule has included differentiated requirements for oil production facilities, as compared to other types of facilities.
- Based on issues brought forth by the regulated community and by other federal agencies (e.g., Department of Energy), EPA is considering several ways that SPCC requirements can be further streamlined, tailored, or clarified for oil production facilities.
**SPCC Amendments 2008**

**Definition Production Facility**
- Proposal would amend the definition of “production facility,” consistent with the proposed revision to the definition of “facility”
- 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)
- Clarifies the flexibility allowed in determining the extent of the facility

**SPCC Amendments 2008**

**Proposed Definition Production Facility**

*Production facility* means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or 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, or associated storage or measurement, and may be located in a single geographical oil or gas field operated by a single operator.

This definition governs whether a facility is subject to a specific section of this part.

**SPCC Amendments 2008**

**Timeframe-SPCC Preparation/Implementation**
- Proposal would allow a new oil production facility six months after the start of operations to prepare and implement an SPCC Plan.
  - A new production facility is one that becomes operational after July 1, 2009.
  - Start of operations “is indicated by the start of well fluid pumping, transfer via flowlines, separation, treatment or storage of crude oil.”
- The timeframe was chosen because 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
SPCC Amendments 2008

Flow-through Process Vessels

Proposal would exempt flow-through process vessels at an oil production facility from the sized secondary containment requirements.

Flow-through process vessels:
- have 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.)
- are differentiated from bulk storage containers and end-use storage containers, such as produced water containers, by their intended use

SPCC Amendments 2008

Flow-through Process Vessels – Proposed Requirements

In lieu of sized containment, proposal would require:
- periodic inspection and/or testing of flow-through process vessels and associated components
- prompt removal of any oil accumulations
- corrective action/repair as indicated by inspections, tests, or evidence of an oil discharge

If the facility experiences a reportable discharge from a flow-through process vessel, then the facility owner or operator would provide sized secondary containment for all flow-through process vessels at the facility
- within six months from the discovery of the discharge

General secondary containment requirements still apply.

* Reportable discharge = more than 1,000 U.S. gallons of oil in a single discharge as described in §112.1(b), or more than 42 U.S. gallons of oil in each of two discharges as described in §112.1(b), occurring in any twelve-month period, or discharges that are the result of intentional discharge, accident, or failure of a vessel or facility.

SPCC Amendments 2008

Clarification of the Definition of Permanently Closed Containers

SPCC rule exempts any oil storage container that is permanently closed.

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.
- Permanent closure requirements under the SPCC rule are separate and distinct from the closure requirements in regulations under Subtitle C of Resource Conservation and Recovery Act otherwise known as RCRA.
Understand what to Provide in the Event of an Inspection.

Know the Key Points of the SPCC Requirement

Beware of and Prepare for Change!

Become familiar with the SPCC General Requirements

Know what is to be contained in “a Compliant” Written SPCC Plan.

Course summary

Articulate Quizmaker Quiz Placeholder - MCA SPCC

Instructions

Congratulations, You Passed the Quick-Quiz.

Now Select (Click on the Course Short Name on the Navigation Bar) to Return to the Course Page to Finish and Receive Credit for the Course.