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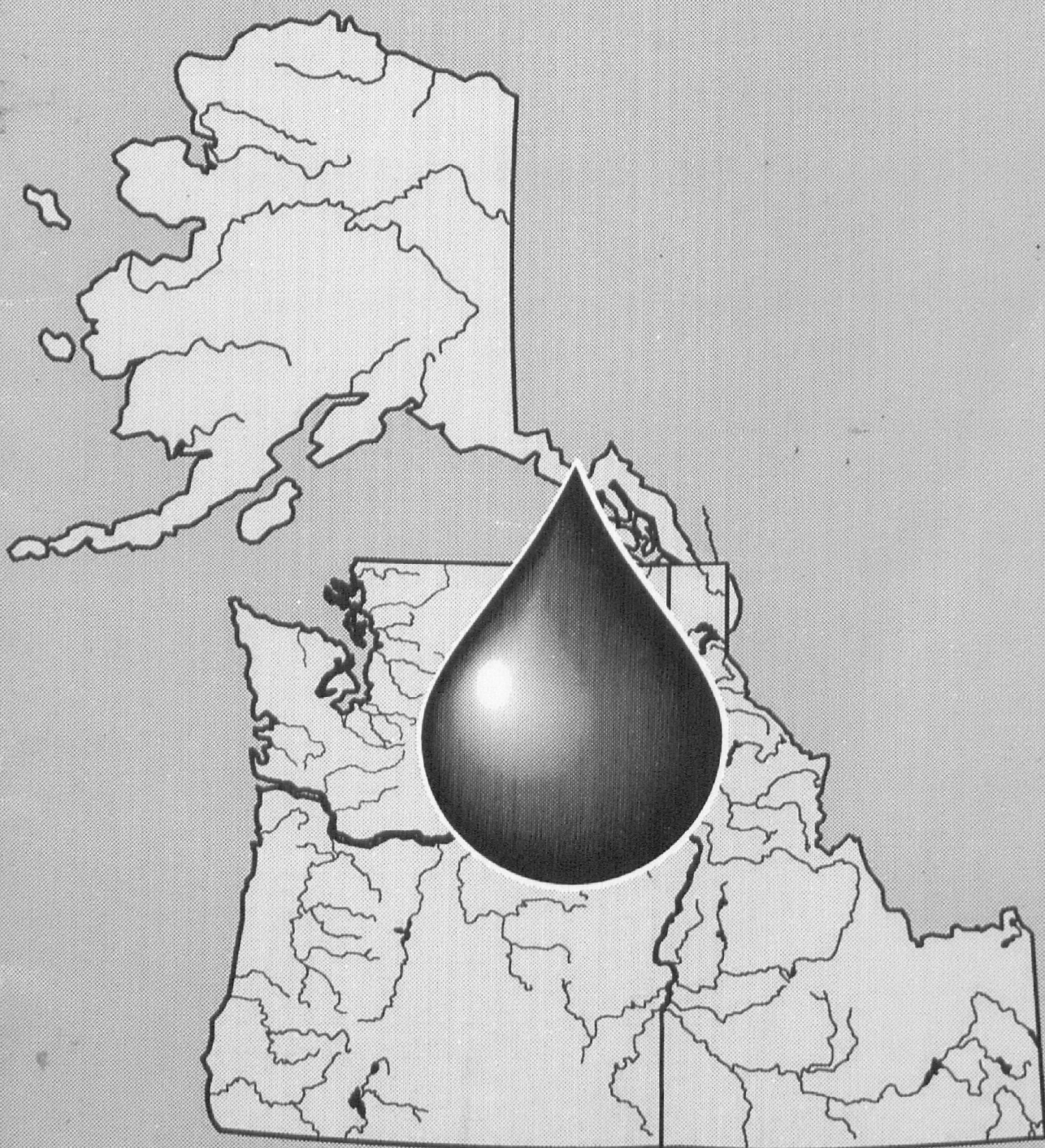
Emergency Response

January 1994



# Information on SPCC Plans

40 CFR 112



Environmental Protection Agency  
Emergency Response Team  
Region 10  
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## **KEY POINTS OF PREVENTION REGULATION**

The Environmental Protection Agency Oil Pollution Prevention Regulations, published in the Federal Register on 11 December 1973, promulgated under section 311(j)(1)(C) of the Clean Water Act, and amended by the Oil Pollution Act of 1990, addresses non-transportation related facilities and is further identified as Title 40, Code of Federal Regulations (CFR), Part 112. The main requirement of facilities subject to the regulation is the preparation and implementation of a plan to prevent any discharge of oil into navigable waters of the United States. The plan is referred to as a Spill Prevention Control and Countermeasure Plan (SPCC Plan).

### **Purpose**

To prevent discharges of oil into navigable waters of the United States and the adjoining shorelines. The main thrust of the existing SPCC regulations is prevention as opposed to after-the-fact reactive measures commonly described in Spill Contingency Plans. However, on February 17, 1993, EPA, published proposed changes to 40 CFR Part 112 which will require certain oil handling facilities to develop Facility Response Plan's (FRPs) to deal with response type measures in addition to the preventative actions.

### **Notice of Proposed Changes to the Existing SPCC Regulations**

Following one of the largest inland oil spills in U.S. history, the 750,000 gallon diesel fuel spill into Pennsylvania's Monongahela River from an Ashland Oil facility, the EPA assembled an interagency SPCC Task Force to review the adequacy of existing Federal regulations governing above ground storage tanks. Based on Task Force recommendations, EPA developed a two-phased approach to modifying the existing SPCC regulations.

#### **Phase I Changes:**

The EPA published a Proposed Rule in Federal Register, Vol. 56, No. 204, Tuesday, October 22, 1991 which would implement EPA's Phase I of the proposed changes to the existing regulations. The proposed revision involves changes to the applicability of the regulation and the required procedures for the completion of SPCC Plans, as well as the addition of a facility notification provision. The proposed rule also reflects changes in the jurisdiction of section 311 of the Clean Water Act (CWA) made by 1977 and 1978 amendments to the CWA. The comment period for this Proposed Rule expired December 23, 1991. The Final Rule is not expected to be published until late 1993 or early 1994.

#### **Phase II Changes:**

The EPA published a Proposed Rule in Federal Register, Vol. 58, No. 30, Wednesday, February 17, 1993 which would implement EPA's Phase II of the proposed changes to the existing regulations. The proposed

revision would incorporate new requirements added by the Oil Pollution Act of 1990 (OPA) that direct facility owners and operators to prepare plans for responding to a worst case discharge of oil and to a substantial threat of such a discharge. Other regulatory changes to strengthen the existing regulation also are proposed. The comment period for this Proposed Rule expired April 19, 1993. The Final Rule is not expected to be published until early 1994.

## **EXISTING REGULATIONS**

### **Applies To**

Owners or operators of facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, or consuming oil products, providing:

1. The facility is non-transportation related (see definition page 6).
2. Aboveground storage capacity of a single container is in excess of 660 gallons, or an aggregate aboveground storage capacity greater than 1,320 gallons, or the total underground buried storage capacity is equal to or greater than 42,000 gallons.
3. The facility, due to its location, could reasonably be expected to discharge oil upon the navigable waters of the United States or adjoining shorelines. This determination is based solely upon a consideration of geographical locational aspects and NOT on man made features such as dikes or other structures.

### **Main Objective of Regulation:**

Requires facilities which are subject to the regulation (based on above criteria) to prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan in accordance with guidelines outlined in paragraph 112.7 of the regulations.

### **Who Prepares the SPCC Plan?**

- Owners-operating their own facilities, or,
- Operators-of leased facilities, or,
- Persons in Charge-including departments, agencies, and instrumentalities of either State or Federal Governments.

### **General Requirements of the SPCC Plan**

1. The SPCC Plan shall be a carefully thought-out plan, prepared and implemented in accordance with accepted engineering standards and practices, and have the full approval of facility management at a level of authority sufficient to commit the necessary resources.
2. The complete SPCC Plan shall follow the sequence outlined in 40 CFR, paragraph 112.7 of the regulation and include a discussion of the facility's conformance with the appropriate guidelines listed.

## **Specific Requirements**

The plan must be certified by a registered professional engineer (see paragraph 112.3(d) of the regulation).

A complete copy of the SPCC Plan shall be maintained at the facility if the facility is normally attended at least eight hours per day, or at the nearest field office if the facility is not so attended. The plan is only submitted to EPA or State Agencies under circumstances and conditions outlined in paragraph 112.3(f) and paragraph 112.4(a).

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

If a discharge occurs in excess of 1,000 gallons in a single event, or two discharges occur in "harmful quantities" within any twelve month period, the owner/operator must then submit copies of the SPCC Plan to the Regional Administrator and to the State Agency in charge of water pollution control activities. Other information must accompany the SPCC Plan as outlined in paragraph 112.4(a).

After review of the SPCC Plan submitted under these circumstances, the Regional Administrator may require an amendment to the Plan as deemed necessary to prevent any future discharges.

## **Time Limits**

### **For Existing Facilities:**

The effective date of the regulations was 11 January 1974, therefore, all existing facilities should already have prepared a Plan.

### **For New Facilities:**

From time of startup of a new facility:  
Six Months to Prepare SPCC Plan  
AND  
Twelve Months to Implement

## **Time Extensions**

The Regional Administrator may authorize an extension of time for the preparation and full implementation of a SPCC Plan beyond the time permitted (listed above) when he/she finds that the owner or operator of a facility cannot fully comply with the requirements of this part as a result of either unavailability of qualified personnel, or delays in the construction or equipment delivery beyond the control and without the fault of such owner or operator and their respective agents or employees. Extension requests shall be submitted to the Regional Administrator and include:

1. A complete copy of the SPCC Plan, if completed;
2. A full explanation of the delay cause and specific aspects of the SPCC Plan affected by the delay;

3. A full discussion of actions being taken or contemplated to minimize or mitigate such delay;
4. A proposed time schedule for the implementation of any corrective actions being taken or contemplated.

## **Questions Frequently Asked**

**Question** - What facilities are subject to the 40 CFR 112 Regulations?

**Answer** - Non-transportation related facilities which have:

1. Aboveground storage capacity in excess of 1,320 gallons or a single container in excess of 660 gallons, or
2. Underground storage capacity in excess of 42,000 gallons, and
3. Facilities which due to their location and storage capacities in 1 or 2 could reasonably be expected to discharge into waters of the United States if a spill should occur.

**Question** - What is considered a non-transportation related facility?

**Answer** -

- A) Fixed onshore and offshore oil well drilling facilities,
- B) Mobile onshore and offshore oil well drilling platforms, barges, trucks, or other similar facilities,
- C) Fixed onshore and offshore oil production structures, platforms, derricks, and rigs,
- D) Mobile onshore and offshore oil production facilities,
- E) Oil refining facilities,
- F) Oil storage facilities,
- G) Industrial, commercial, agricultural or public facilities which use or store oil,
- H) Waste treatment facilities,
- I) Loading racks, transfer hoses, loading arms and other equipment which are appurtenant to a non-transportation-related facility,
- J) Highway vehicles and railroad cars used to transport oil exclusively within the confines of a non-transportation-related facility, and
- K) Pipeline systems used to transport oil exclusively within the confines of a non-transportation-related facility.

**Note:** *All the above entities excludes any portion of the facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.*

**Question** - Who determines if a facility is in need of an SPCC Plan?

**Answer** - The owner or operator is required to make this assessment by the Regulation.

**Question** - What determines reasonability of a spill reaching U.S. navigable waters?

**Answer** - Location of the facility in relation to a stream, ditch, storm sewer, distance, volume of material, drainage patterns, soils conditions, etc. Further, according to the regulations, this determination is "Based solely upon . . . geographical locational aspects of the facility . . . and shall exclude consideration of manmade features such as dikes . . ."

**Question** - Who is required to prepare the SPCC Plan?

**Answer** - The facility owner/operator. The Certifying Engineer may assist, but the owner/operator is responsible.

**Question** - Why does the SPCC Plan have to be certified?

**Answer** - To assure that good engineering practices are followed in preparing the SPCC Plan.

**Question** - What are the requirements for certification?

**Answer** - The engineer should be familiar with the provisions of 40 CFR Part 112 and must have examined the facility, and be registered in at least one state. It is not currently necessary to be registered in the state in which the facility is located.

**Question** - What constitutes an SPCC Plan?

**Answer** - A Plan that follows the guidelines suggested in the Regulations 40 CFR Part 112.7. Include a sketch or drawing of the site to assist in identification of the implementation.

**Question** - When the SPCC Plan is completed and certified, is it sent to EPA for review?

**Answer** - No, a certified copy of the Plan is required to be available at the facility for EPA on-site review, if the facility is attended at least eight hours a day. If the facility is not attended, the Plan shall be kept at the nearest company office. But, it must be made available to either the EPA or their representatives upon request during normal working hours. However, 40 CFR Part 112.4 requires any facility that has experienced a spill in excess of 1,000 U.S. gallons in a single event into navigable waters, or any two discharges of harmful quantities of oil, into navigable waters, within a 12 month period to submit their SPCC Plan to the EPA within 60 days of the incident(s).

**Question** - What is the time frame for plan preparation and implementation for a new facility?

**Answer** - The SPCC plan shall be prepared within six months after the date the facility begins operation and should be fully implemented no later than one year from the date the facility begins operation.

**Question** - Does the submission of a letter of request for extension relieve the owner or operator from his obligation to comply with the requirement of 112.3 (a), (b) or (c) of 40 CFR 112?

**Answer** - No, where an extension of time is authorized by the Regional Administrator for particular equipment or other specific aspects of the SPCC Plan, such an extension shall in no way affect the owner's or operator's obligation to comply with the requirements 112.3 (a), (b) or (c) with respect to other equipment or specific aspects of the plan for which an extension of time has not been expressly authorized.

**Question** - Is an SPCC Plan required when a facility has existing preventive systems in place and no previous history of spills?

**Answer** - The need for an SPCC plan is determined by two criteria; the storage capacity and the location in relationship to the waters of the U.S., disregarding existing manmade structures.

**Question** - When a production lease consists of several operations, such as wells, oil/water separators, collection systems, tank batteries, etc., does each operation require a separate SPCC Plan?

**Answer** - No, one SPCC Plan may include all operations within a single geographical area, as long as each operation is addressed in the Plan.

**Question** - Is every loss of oil or oil product subject to a penalty?

**Answer** - No, a discharge is defined in Section 311(a)(2) of the Federal Water Pollution Control Act (FWPCA) as including, but not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping that enters the navigable waters to the U.S. or on the adjoining shorelines in harmful quantities. If the water is affected, a penalty could be assessed. If a spill occurs and is prevented by some means from entering water, no penalty should be assessed.

**Question** - What is considered to be a harmful quantity?

**Answer** - See the Glossary at the end of this booklet for a definition.

**Question** - What is considered navigable waters?

**Answer** - See the Glossary at the end of this booklet for a definition.

**Question** - Is one spillage of oil into a municipal storm sewer a violation?

**Answer** - If oil reaches "navigable waters", a violation has occurred and penalties may result. The facility spilling the oil must also have an SPCC Plan implemented.

**Question** - What penalties are assessed?

**Answer** - Paragraph 112.6 of 40 CFR 112 authorizes the Regional Administrator to assess a civil penalty of up to \$5,000 for each day a violation continues.

**Question** - Can "Double Walled" tanks be used to meet the requirement for secondary containment?

**Answer** - The use of "Double Walled" tanks as a substitute for a single walled tank and dike is allowed under following conditions. In addition to the tank, overflow alarms and automatic shut-off devices are required. Contact EPA for specifics on the use of "Doubled Walled" tanks.



# **THE SPCC PLAN**

## **Basic Concepts**

There is no rigid format for an SPCC Plan. The guidelines (40 CFR, Part 112.7) of the regulation suggesting a format is quoted - "The complete SPCC Plan shall follow the sequence outlined below, and include a discussion of the facility's conformance with the appropriate guidelines listed". These guidelines indicate "minimal" requirements and must necessarily provide wide latitude to the many types of facilities to which they apply. A synthesis of these guidelines is presented on the following pages.

Spills can best be controlled by installation of prevention systems, adherence to proper operating procedures, and preventative maintenance, supported by positive containment and removal. If these elements are well-thought-out and documented, the result will be an adequate SPCC Plan. Therefore, three basic principles should be embodied within an SPCC Plan:

1. The practices devoted to the prevention of oil spills.
2. The plan of containment should a spill occur.
3. The plan for removal and disposal of spilled oil.

Furthermore, the Plan must be maintained and/or revised according to any changes in operation, process, or facilities covered, within six months of the change (40 CFR Part 112.5).

## **Spill Prevention**

Operational errors and equipment failures are the primary causes of spills. Therefore, the plan should contain measures designed to avoid these errors and failures.

Operational Errors can be minimized through:

1. Personnel training.
2. Operator awareness of the imperative nature of spill prevention.
3. Adequate supervision of procedures.

Management must be committed to spill prevention and must develop and enforce techniques for safe and efficient operation.

Equipment Failures can be minimized through:

1. Proper initial selection and construction.
2. Maintenance of structural integrity and function.
3. Frequent inspections.

Industry standards and sound engineering practices dictate the proper course of action in each of these areas.

## Containment of Spilled Oil

In this EPA Region we are generally concerned with spills from facilities where positive containment devices and systems are practical and effective. Dikes, retaining walls, curbing, spill diversion ponds, sumps, etc. fall into the category of prevention systems. Only where impracticability\* to provide positive containment can be clearly demonstrated does the facility have the option to take the "contingency" plan approach. Contingency plans are considered "reactive" in nature - that is, they generally describe after-the-fact actions and can be expected to mitigate the effects of a spill after it occurs. Therefore, preventative systems must be given first priority considerations in the initial study and preparation of the SPCC Plan.

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*"Impracticability to provide positive containment" alludes mainly to those cases where severe space limitations may preclude installation of structures or equipment to prevent oil from reaching water. Justifying "Impracticability" on the basis of financial considerations is difficult because the required commitment of manpower, equipment, and materials to expeditiously control, remove, and disperse spilled oil would not normally offer any significant economic advantage.*

## Elements of an SPCC Plan

While each SPCC Plan is unique, there are certain elements which may be included almost without exception to make a plan comply with provisions of the regulation and the spirit of oil spill prevention. These elements are discussed or listed as follows:

**Name of Facility** - This may or may not be the business name.

**Type of Facility** - This briefly describes the business activity.

**Date of Initial Operation** - The date that the facility began operation.

**Location of Facility** - This may be a word description or city address which can be supported by area maps.

**Name and Address of Owner** - Usually an address if remote from the facility location.

**Designated Person Responsible for Oil Spill Prevention** - Each facility should have some person with overall oil spill responsibility. This person should be thoroughly familiar with the regulation and the facility's SPCC Plan.

**Oil Spill History** - This section can be either a reactive declaration, or a detailed history of significant spill events which occurred in the twelve month period prior to the publication of the regulation. In the latter case, typical information would include:

1. Type and amount of oil spilled,

2. Location, date, and time of spill(s),
3. Watercourse affected,
4. Description of physical damage,
5. Cost of damage,
6. Cost of cleanup,
7. Cause of spill,
8. Action taken to prevent recurrence.

**Management Approval** - This is a signed statement of a person with the authority to commit management to implementation of the plan.

**Certification** - This is a statement of plan certification under the seal, signature, state, and registration number of a registered professional engineer. The certifying engineer does not have to be registered in the state in which the facility is located.

**Periodic Review** - This is a signed and dated statement by the owners and operators that a review and evaluation of the SPCC Plan has been performed. A review of the plan must be completed at least once every three years. As a result of the review evaluation the owner or operator shall amend the SPCC Plan within six months of the review to include more effective prevention and control technology if the technology will significantly reduce the likelihood of a spill event and the technology has been field-proven at the time of review.

**Note:** *All of the above information may be presented on a single page of an SPCC Plan. As an example, in Appendix A is a sheet entitled Certification Information.*

**Facility Analysis** - A portion of the plan should include a description of the facility operation, which should generally indicate the magnitude of spill potential. For example, the amount and type of storage, normal increments of transfer or patterns of usage, distribution, processes, etc. In this analysis, the direction of flow of spilled oil should be indicated along with any factors which are pertinent to or influence spill potential. It is appropriate to support this type of information by charts, tables, plot plans, etc., to aid clarity or promote brevity.

**Location of Facility** - The geographical location is an integral part of the SPCC Plan. Location and topographic maps can be critical in determining the adverse consequences of an oil spill. Sources for such maps include: (1) U.S. Geological Survey, (2) State Highway Department, (3) County Highway Engineer, (4) local land surveys, and (5) City Engineer.

**Facility Inspection** - An inspection report covering the facility in terms of equipment, containment, operation, drainage, security, etc., may provide essential information necessary to formulate the SPCC Plan. Therefore, such reports could reasonably be incorporated as part of the Plan. This kind of report would best serve in more complex facilities and is not considered necessarily an element common to all SPCC Plans.

**Amendment of SPCC Plans** - Paragraph 112.5 (a), (b) and (c) of 40 CFR 112 states that owners or operators of facilities shall amend the SPCC Plan whenever there is a change in facility design, construction, operation or maintenance which materially affects the facility's potential for the discharge of oil into or upon the waters of the United States or adjoining shorelines. Amendments shall be fully implemented as soon as possible, but no later than six months after the discharge occurs. Amendments must be certified by a professional engineer in accordance with 40 CFR 112.3(d).

**Facility Drainage (onshore)** - All drainage from diked storage areas shall be restrained by valves or other positive means to prevent a spill or leakage of oil into the drainage system or in-plant effluent treatment system, except where plan systems are designed to handle such leakage. Pumps or ejectors for draining diked areas should be manually activated and secured when not in use and condition of the accumulation should be examined before draining to be sure no oil will be discharged into the water. Flapper-type drain valves should not be used to drain diked areas. As stated in 40 CFR 112.7 (e), (1), (ii) when plant drainage drains directly into water course and not into wastewater treatment plants, retained storm water should be inspected to ensure the bypass valve is normally sealed closed; inspection of the runoff rainwater ensures compliance with applicable water quality standards; and the bypass valve is resealed following drainage under responsible supervision. Plant drainage systems from undiked areas should flow into areas designed to retain oil or return it to the facility. Catchment basins should not be located in areas subject to periodic flooding.

**Bulk Storage Tanks** - No tank should be used for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage, such as pressure and temperature. All bulk storage installations should have secondary means of containment for the entire contents of the largest single tank plus sufficient free board to allow for precipitation. This is normally interpreted to be at least 10-15% additional in volume. Mobile or portable oil storage tanks (onshore) should be positioned or located so as to prevent spilled oil from reaching navigable waters. The following areas, if applicable, should be addressed in the SPCC plan for facilities containing bulk storage tanks.

1. Are containment dikes constructed with materials sufficiently impervious to contain spilled oil?
2. Are catchment basins or trenches sufficient for retaining or returning oil to the facility and are not in areas subject to periodic flooding?
3. Is the area secured?
4. Are buried tanks protected from corrosion with coatings, cathodic protection or other effective methods compatible with local soil conditions, and are buried tanks subjected to regular pressure testings or other suitable testings procedures?

5. Are aboveground tanks subjected to periodic integrity testing, such as hydrostatic testing, visual inspections for signs of deterioration or leaks, or a non-destructive shell thickness testing?
6. Are tank supports and foundations appropriate?
7. Are high liquid level alarms audible or visual signals, or high liquid pump cutoff devices available and tested frequently?
8. Are direct audible or code signal communication between the tank gauger and pumping station present and sufficient?
9. Mobile or portable tanks positioned to prevent spilled oil from reaching the navigable waters.

**Facility Transfer Operations, Pumping, and In-Plant Process-**

1. Buried piping protectively wrapped and coated, and cathodically protected?
2. Piping not in service for extended times is capped or blank-flanged?
3. Piping supports minimize abrasion?
4. Above ground valves and pipelines subject to regular examinations?
5. Vehicular traffic aware (warned) of above ground piping?

**Facility Tank Car and Truck Loading/Unloading Rack Areas** - Facility tank car and truck loading/unloading should meet the minimum requirements and regulations established by the Department of Transportation. Rack area's should have a containment system designed to hold at least the maximum capacity of any single compartment of a tank car or truck in the rack area. If a containment system is not available the facility should provide a draining system that would prevent the release of oil into the surrounding waters, and allow for recovery of the spilled oil.

**Site Security** - Security of all plants handling, processing, and storing oil (excluding oil production facilities) should be fully fenced, and entrance gates should be locked or guarded when the plant is not in production or is unattended. All master flow drain valves that may permit direct outward flow of the tank's content to the surface should be securely locked in the closed position when in non-operating or non-standby status. The starter control on all oil pumps should be locked in the off position or located at a site accessible only to authorized personnel when the pumps are in a non-operating or non-standby status. The loading/unloading connections of oil pipelines should be securely capped or blank-flanged when not in service for an extended time. Facility lighting should be suitable to: 1) aid in the discovery of spills occurring at night, and 2) prevent spills occurring through acts of vandalism.

## **Most Common Flaws/Problems With SPCC Plans and Implementation**

- No SPCC Plan available or if available, not approved by a certified engineer;
- SPCC Plan is not up to date; i.e., not implemented or reviewed recently. The regulations require owners and operators to review and evaluate their SPCC Plan's once every three years (40 CFR Part 112.5);
- Drain valve types or operation logs not sufficient or available;
- Site security is inadequate; i.e., no locks or fences;
- Inadequate loading/unloading area containment;
- Containment lacking or insufficient; i.e., existing cracks or too small;
- Leaking pipes;
- Tanks have flaws or are not labeled;
- Pipes or valves are exposed and do not have crash barriers;
- Emergency procedures lacking or insufficient;
- Safety equipment inadequate or lacking;
- Inadequate access to spill supplies;
- Illegal off-site drainage, and
- Facility personnel inadequately trained in spill prevention.

## SPCC EXAMPLES

Several industrial trade associations have developed suggested SPCC Plan preparation guidelines for use by their members. Generally these guidelines were developed for a particular type of facility and have been very helpful. However, care should be exercised not to rely totally on any stereotyped format. *Each plan is unique to the facility and requires individual thought processes and tailoring to specific spill hazards.*

The American Petroleum Institute has prepared a bulletin entitled "Suggested Procedure for Development of Spill Prevention Control and Countermeasure Plans" (API Bulletin D 16). This was designed primarily for oil production facilities.

The National Oil Jobbers Council has prepared a sample SPCC Plan covering a modest sized bulk plant which includes written and graphic details along with a dike design procedure. A modified copy of this is included in Appendix B.

## **APPENDIX A**

### **EXAMPLE CERTIFICATION PAGE**

An example of a certification page for an SPCC Plan is shown below.

#### **Certification Information**

- A. Name of Facility - Washington Bulk Storage Terminal
- B. Type of Facility - Crude Oil Storage and Handling
- C. Date of Initial Operation - 1 January 1974
- D. Location of Facility - 1111 Main Street, Seattle, Washington
- E. Name and Address of Owner:
  - ABC Oil Company
  - P.O. Box 100
  - Oilville, Washington 98000
- F. Designated Person Responsible for Oil Spill Prevention:
  - Name: John Doe
- G. Oil Spill History - This facility has experienced no significant oil spill events during the twelve months prior to 10 January 1974.
- H. Management Approval - Full approval is extended by Management at a level with authority to commit the necessary resources toward spill prevention.

#### **Signature**

Name: Ms. A.A. Jones

Title: President, ABC Oil Company

- I. Certification - I hereby certify that I have examined the facility and, being familiar with the provisions of 40 CFR, Part 112 attest that this SPCC Plan has been prepared in accordance with good engineering practices.

Name: I.M. TAT

Signature:

(Seal)

Date: 10 January 1974

Registration No: 0000-00  
State: Oregon



**APPENDIX B**  
**SAMPLE SPCC PLAN**

Spill Prevention Control and Countermeasure Plan

ABC Oil Company  
100 Neverspill Road  
Post Office Box 100  
Oilville, Washington 98000  
Telephone (123) 456-7890

Contact  
John Doe, Owner & Manager

Certification:  
Engineer:

Signature:

License Number: 0000-00 (Seal)

State: Oregon  
Date: 10 January 1974

**1. Name and Ownership**

Name: ABC Oil Company  
100 Neverspill Road  
Post Office Box 100  
Oilville, Washington 98000  
Telephone (123) 456-7890

Manager: John Doe  
505 Oil Road  
Oilville, Washington 98000  
Telephone: (123) 456-0987

Owner: Same

Other  
Personnel: Secretary-Bookkeeper  
Dispatcher  
Transport Driver  
(3) Delivery People

Service  
Area: King County, Washington

## 2. **Description of Facility**

The bulk plant of the ABC Oil Company handles, stores, and distributes petroleum products in the form of motor gasoline, kerosene, and No. 2 fuel oil. The accompanying drawing shows the property boundaries and adjacent highway, drainage ditches, on-site buildings, and oil handling facilities.

Fixed

Storage: (2) 20,000 gallon vertical tanks (premium gasoline)  
(2) 20,000 gallon vertical tanks (regular gasoline)  
(2) 20,000 gallon vertical tanks (No. 2 fuel oil)  
(1) 20,000 gallon vertical tanks (kerosene)

Total: 140,000

Vehicles: (1) Transport Truck  
(4) Tankwagon Delivery Trucks

The bulk plant is surrounded by steel security fencing and the gate is locked when the plant is unattended. Two area lights are located in such positions so as to illuminate the office and storage areas.

## 3. **Past Spill Experiences**

(None)

## 4. **Spill Prevention-Storage Tanks**

- 1) Each tank is UL-142 construction (aboveground use).
- 2) The main outlet valve on each tank is lock-shut when the plant is unattended.
- 3) Each tank is equipped with a direct-reading gauge.
- 4) Venting capacity is suitable for the fill and withdrawal rates.
- 5) Main power switch for pumps is located in a box which is locked when the bulk plant is unattended.
- 6) A dike surrounds the tank assembly. Its volume (height vs. area) is computed based on a single largest tank within (20,000 gallons) and allowance is made for all additional vertical tank displacement volumes below the dike height (estimated spill liquid level). Total storage capacity is 140,000 gallons. A 2-inch water drain is located at the lowest point within dike enclosure and it connects to a normally-closed gate valve outside the dike.

## 5. **Spill Prevention-Vehicular**

- 1) On site  
The frontal highway ditch and the ditch on the property's southern boundary intersect before crossing the highway through a culvert headed eastward and eventually to a stream located approximately one-half mile distant. Emergency containment action will constitute the erection of an earthen dam and placement of absorbent pillars at the entrance to culvert. Additional cascading of barriers will be provided as necessary.

Personnel training and drill are described herein later.

2) Off site

Each vehicle is equipped with a shovel and two absorbent pillows. The driver is instructed to achieve emergency containment, if possible, then call the office for help immediately.

6. **Personnel**

All personnel have been instructed and rehearsed in the following spill prevention and countermeasure plans:

- 1) No tank compartments to be filled prior to checking reserves.
- 2) No pump operations unless attended continuously.
- 3) Warning signs are displayed to check for line disconnections before vehicle departures.
- 4) Instruction has been held on oil spill prevention, containment, and retrieval methods, and a "dry-run" drill for an on-site vehicular spill incident has been conducted.
- 5) Instructions and phone numbers have been publicized and posted at the office regarding the report of a spill to the National Response Center (1-800-424-8802), the U.S. Coast Guard, the EPA, and the applicable State Environmental agency.
- 6) Instructions and company regulations have been posted conspicuously which relate to oil spill prevention and countermeasure procedures.

## 7. Future Spill Prevention Plans

By July 10, 1995 (implementation deadline) the following additional plans will be completed:

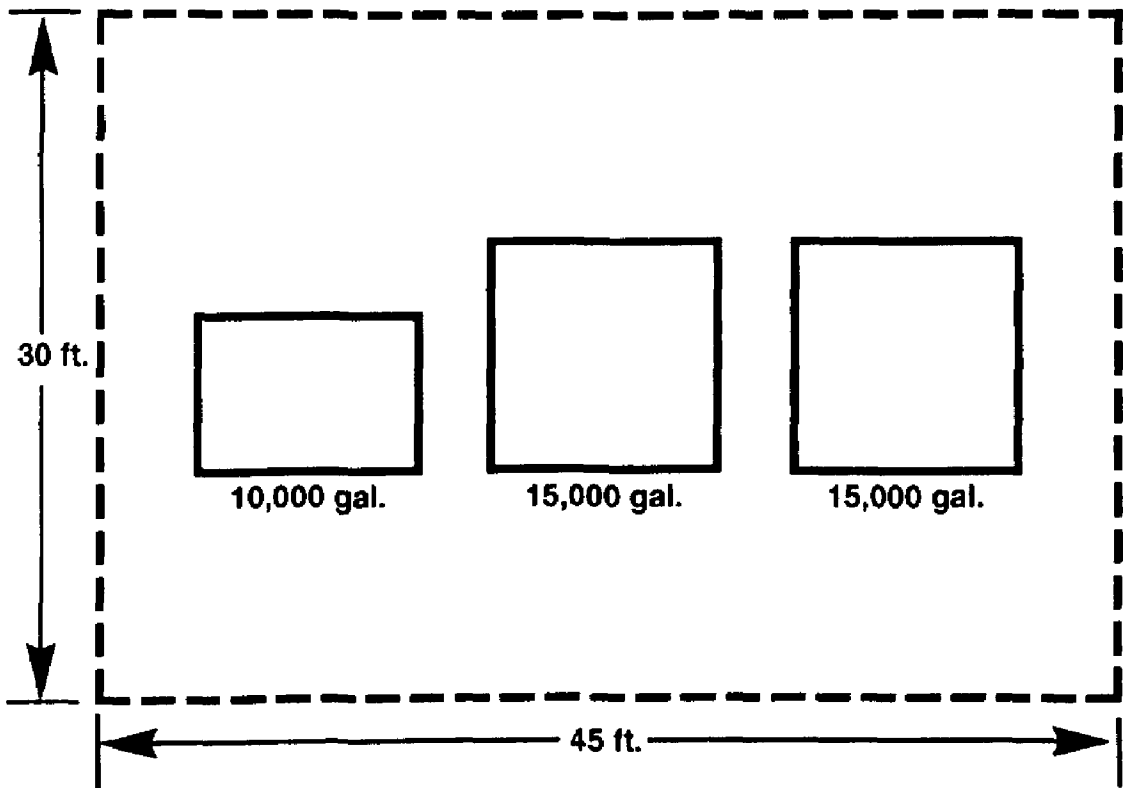
- 1) On-site storage of spill containment and retrieval materials and equipment: bagged absorbent, absorbent pillars and booms, and tools. Storage facility will be well-publicized and clearly identified.
- 2) Installation of a sand-filled catchment basin for minor, routine spillage at loading pump intakes and at loading rack. Sand to be periodically replaced.
- 3) A routine inspection program with check-off listing of tanks, piping, valves, hoses, and pumps for the prevention of both major spills and also minor spills or leakage through proper maintenance.

**John Doe**

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*Signature*

2. **Example of Design: Horizontal Tanks Only**  
Plan View-Available dike position



- (a) Minimum Containment Volume is single largest tank dike: 15,000 gallons, this example

$$15,000 \text{ gal.}, @ .1337 \text{ cu ft/gal} = 2006 \text{ cu ft.}$$

- (b) Available Area:  
 $30 \text{ ft} \times 45 \text{ ft} = 1350 \text{ sq ft}$ , this example.

- (c) Average Dike Height "h" is:

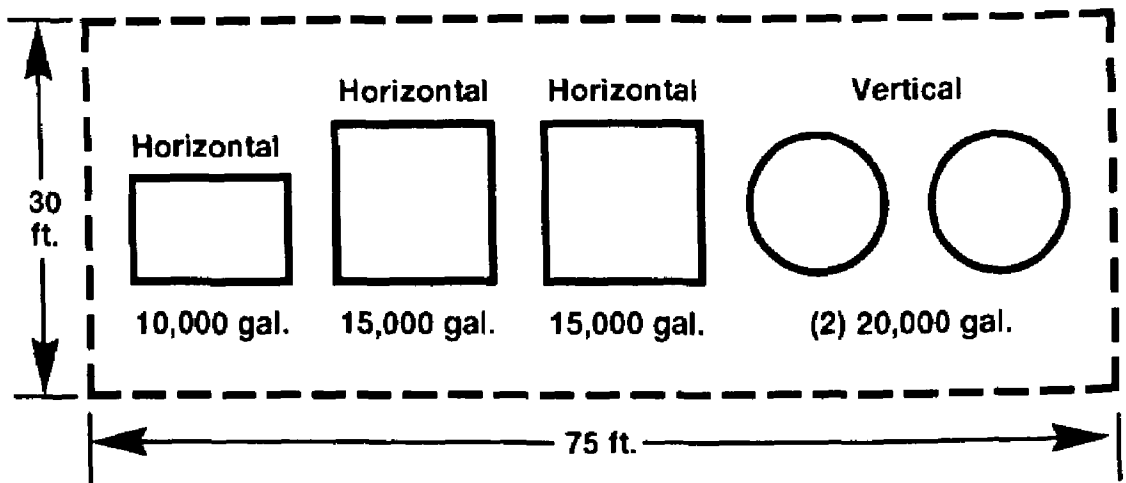
$$h \times 1350 \text{ sq ft} = 2006 \text{ cu ft.}$$

$$h = 2006 \div 1350$$

$$h = 1.486 \text{ ft.} \approx 17.8 \text{ inches plus freeboard.}$$

### 3. Example of Design: Horizontal and Vertical Tanks

Plan View - Available dike portion



- From code, the Minimum Containment Volume is single largest tank within dike: 20,000 gallons, this example.  
 $20,000 \text{ gallons} \times .1337 \text{ cu ft/gallon} = 2674 \text{ cu ft.}$
- Available Dike Area, this example:  $30 \text{ ft} \times 75 \text{ ft} = 2250 \text{ sq ft.}$
- Observe that some volume of the vertical tanks goes below the dike wall height (see last sentence, paragraph 1.a). This volume of the second 20,000 gallon tank (and any additional verticals) assumed not ruptured must be considered.
- Average Dike Height "h" is:

$h \times \text{Area of Dike} = \text{Minimum Containment Volume} + h \times \text{circular area of second and any additional vertical tanks.}$

$$h \times 2250 \text{ sq ft} = 2674 \text{ cu ft} + h \times 3.14 \times 5.25 \times 5.25 \text{ (radius squared)}$$

$$2250 h - 86.5h = 2674$$

$$2163.5h = 1.236 \text{ ft} = 14.8 \text{ inches.}$$

Average Dike Height = approximately 15 inches plus freeboard.

## GLOSSARY

**Discharge:** Includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping. Excludes discharges in compliance with a permit under section 402 of the Clean Water Act (CWA); discharges resulting from circumstances identified, reviewed, and made part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a conditions in such permit; or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems.

**Facility:** Any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe, or pipeline used in oil well drilling operations, oil production, oil refining, oil storage, and waste treatment. The boundaries of a facility may depend on several site-specific factors, including, but not limited to, the ownership or operation of building, structures, and equipment on the same site and the types of activity at the site.

**Harmful Quantity:** Includes discharges of oil that violate applicable water quality standards or cause a sludge or emission to be deposited beneath the surface of the water or upon adjoining shorelines.

**Injury:** A measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil, or exposure to a product of reactions resulting from a discharge of oil.

**Navigable Waters:** As defined by 40 CFR Part 110.1, means the waters of the United States, including the territorial seas. The term includes:

- (a) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
- (b) Interstate waters, including interstate wetlands;
- (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
  - (1) That are or could be used by interstate or foreign travelers for recreational or other purposes;
  - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;
  - (3) That are used or could be used for industrial purposes by industries in interstate commerce;
- (d) All impounds of waters otherwise defined as navigable waters under this section;
- (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition, including adjacent wetlands; and
- (f) Wetlands adjacent to waters identified in paragraphs (a) through (e) of this definition: Provided, that waste treatment (other than cooling ponds meeting the criteria of this paragraph)

**Nearshore Area:** The area extending seaward 12 miles from the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico the nearshore area is the area extending seaward 12 miles from the line of demarcation (COLREG lines) defined in 33 CFR 80.740-80.850.

**Non-persistent Oil:** A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions: (1) at least 50% of which by volume, distill at a temperature of 340 degrees C (645 degrees F) and (2) at least 95% of which by volume, distill at a temperature of 370 degrees C (700 degrees F). A Group 1 oil can also be a non-petroleum oil with a specific gravity less than 0.8.

**Non-petroleum Oil:** Oil of any kind that is not petroleum based. It includes, but is not limited to, animal and vegetable oils.

**Oil:** Oil in any kind or in any form, including, but not limited to petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged soil.

**Onshore Production Facilities:** Includes all wells, flowlines, separation equipment, storage facilities, gathering lines, and auxiliary non-transportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator.

**Owner/Operator:** Any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated or maintained such facility immediately prior to such abandonment.

**Persistent Oil:** Includes a petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. Persistent oils are further classified based on specific gravity as follows:

- Group II Specific gravity less than .85,
- Group III Specific gravity between .85 and < .95
- Group IV Specific gravity between .95 and 1.0
- Group V Specific gravity greater than 1.0

This criteria is also applicable to non-petroleum oils.

**Regional Administrator:** The EPA Regional Administrator or a designee of the Regional Administrator, in and for the Region in which the facility is located.

**Rivers and Canals:** Includes bodies of water confined within the inland area with a project depth of 12 feet or less, including the Intracoastal Waterway and other waterways artificially created for navigation.

**SPCC Plan:** The document required by the Oil Pollution Prevention regulation that details the equipment, manpower, procedures, and steps to prevent, control and provide adequate countermeasures to an oil spill. The plan is a written description of the facility's compliance with the procedures of this regulation.