

**US Environmental Protection Agency**  
**Spill Prevention Control & Countermeasure Plan (SPCC)**  
**Spill Plan under 40 CFR Part 112, July 17, 2002**  
*By: North Carolina Petroleum Marketers Association (NCPMA)*  
March 23, 2006  
*For: Petroleum Marketers of America (PMAA)*  
1901 N. Fort Myer Dr. - Suite 500,  
Arlington, VA 22209-1604  
Web site: [www.pmaa.org](http://www.pmaa.org)

## **Objective**

Petroleum Marketers as owner/operators must be able to help the Professional Engineer (PE) understand their business and how the new SPCC regulations affect them. Petroleum Marketers should:

- Be familiar with 40 CFR Part 112- Oil Pollution Prevention regulations, and
- Have a better understanding of the requirements and other regulatory provisions for preparing SPCC plans for the storage of petroleum regulated substances.
- Be able to properly calculate the correct volume requirement for secondary containment structures.
- Understand tank integrity testing requirements as they relate to PMAA's Settlement Agreement, Industry Standards, SBA Considerations and Federal Regulations.
- Know what a SPCC CONTINGENCY PLAN is.
- Know what the term "sufficiently impervious" applies to.
- Know the US EPA's Definition of the word "Oil"
- Understand the PE's requirements for development of SPCC Plan.
- Understand optional PE exception under the Small Facility Exception (less than 10,000 gallons).

## **Introduction**

The Oil Pollution Prevention regulation, also known as the SPCC regulation, was promulgated on December 11, 1973, under the authority of §311(j) (1)(C) of the Clean Water Act (CWA). The regulation established procedures, methods, and equipment requirements for non-transportation-related facilities with aboveground oil storage capacity greater than 1,320 gallons in a single tank or 1,320 gallons total aggregate capacity. The regulation also applies to underground aggregate storage capacity greater than 42,000 gallons not in compliance with Federal or State underground storage tank regulations.

The US EPA proposed revisions to the SPCC rule in 1991, 1993, and 1997. These revisions will become effective on October 31, 2007.

The regulation requires that all regulated facilities have a Registered PE develop a Spill Plan before the new facility begins operations or within six months of the effective date for existing facilities.

You should also refer to the US EPA's Oil Spill Web Site at: <http://www.epa.gov/oilspill/>. A copy of 40 CFR parts 112 can be found at: [http://www.epa.gov/oilspill/pdfs/0703\\_40cfr112.pdf](http://www.epa.gov/oilspill/pdfs/0703_40cfr112.pdf). The American Petroleum Institute (API) Recommended Practice Bulletin D16 can also be helpful (see: [http://api-epi.org/](http://api.epi.org/))

The US EPA Federal Regulation 40 CFR part 112 requires that a SPCC Plan be prepared for all onshore and offshore oil storage facilities that have discharged (spilled/leaked) oil or could reasonably be expected to discharge oil that would likely reach "**navigable water**". The requirement for the SPCC Plan applies to non-vehicle or non-pipeline facilities involving storage facilities where any single above ground tank is larger than 1,320 gallons or the aggregate total above ground storage is over 1,320 gallons.

Amendments to the SPCC plan are required to be reviewed by a Registered PE when the facility adds or removes tanks, begins storing different oil products, other changes at the facility result in an increase in spill potential and when amendments are required by US EPA.

## **FACILITIES THAT STORE LESS THAN 10,000 GALLONS OF OIL**

US EPA has an option that would allow owners or operators of facilities that store less than 10,000 gallons of oil and meet other qualifying criteria to **self-certify their SPCC Plans, in lieu of review and certification by a PE. The self-certification by facility owner/operator must be in compliance with the SPCC Regulations.**

A qualified facility is a facility subject to the SPCC requirements that (1) has a maximum total facility oil storage capacity of 10,000 gallons or less; and (2) had no reportable oil discharge as described in Sec. 112.1(b) during the ten years prior to self-certification or, since becoming subject to the SPCC requirements if the facility has been in operation for less than ten years. Under this approach, facility

owners/operators of qualified facilities choosing to self-certify their SPCC Plans **may not deviate from any requirement of the SPCC rule** under Sec. 112.7(a) (2) (with two exceptions) and may not make impracticability determinations in their SPCC Plans as described under Sec. 112.7(d). The two exceptions are that facility owners/operators of qualified facilities choosing to self-certify their SPCC Plans would have flexibility with respect to the security requirements and container integrity testing. Thus, in effect, the US EPA is allowing owners and operators of qualified facilities to consult and rely on industry standards or qualified container inspectors/testing personnel to determine the appropriate qualifications for tank inspectors/testing personnel and the type/frequency of integrity testing required for a particular container size and configuration. The US EPA is allowing qualified facilities to make this determination in accordance with industry standards without the need to develop a PE-approved environmentally equivalent deviation. **You cannot use equivalent environmental protection with the self certification option.**

### **Revised SPCC Regulations will be Effective October 31, 2007**

- 1) Storage of tanks/drums/barrels/containers less than 55 gallons is exempt from the aggregate capacity calculation. All underground storage tanks (USTs) are exempt from the new regulation if under a Federal/State UST Program.
- 2) Only aboveground tanks with single tank storage capacity greater than 1,320 gallons or a group of tanks/drums/barrels/containers with an aggregate capacity greater than 1,320 gallons are subject to the regulation.
- 3) The SPCC Plan review requirement by the owner/operator has been changed from every 3 years to every 5 years.
- 4) Integrity testing of tanks & piping must be performed in accordance with industry standards or in accordance with PE equivalent environmental protection requirements. **Horizontal tanks and vertical tanks on sufficiently impervious materials/liners or enclosed tanks (double wall) not in contact with the ground may only require owner external visual inspections based upon PE review.**
- 5) When repairs are done, integrity testing must be accomplished by companies/individuals in accordance with industry standards (STI, NFPA, API, PEI or PE).
- 6) All buried piping that is installed or replaced after 8-16-02, must have protective coating and wrapping and cathodic protection, or meet 40 CFR part 280 or a state program.
- 7) Overfill prevention systems & alarms must be installed in accordance with industry standards and Fire Codes. Overfill prevention must be inspected/tested in accordance with industry standards. Vent whistles can be used at smaller facilities where vent whistle can be heard during tank filling. Another equivalent method is allowed: If a facility operator/driver will check containers visual tank gauge prior to the unloading process and allow driver/facility operator to check tank gauge during tank filling process at frequent intervals.
- 8) All "shoulds" in the existing regulation are changed to "must or shall" in the revised regulation.
- 9) Secondary containment systems or their equivalents for Bulk Tanks, Loading & Unloading areas and Piping Systems must be sufficiently impervious. Compacted Clays, Uncoated Concrete, Liners, Geo-Membranes may meet this requirement upon PE review;
- 10) Security Fencing and Area Security Lights are required; Equivalent environmental protection for facility fencing that may be approved by the PE may include security guards, regular police patrols, and fencing only oil handling equipment/tanks.
- 11) The Facility diagram must include the location of the USTs (if applicable), type of oil in each AST and size, surface flow direction, loading/unloading areas, area lights, & aboveground piping;
- 12) Requires all Loading/Unloading Rack(s) and aboveground piping to have secondary containment. When secondary containment is not practical from an engineering standpoint, then this would not be required. Some engineering reasons why this would not be required are; insufficient space, loading/unloading spill risk potential, adverse weather conditions (ice, snow that would cause a vehicular collision) in the area of the loading/unloading systems. The PE will make this determination. **PMAA believes that all loading rack operations should have some form of secondary containment. It could be feasible that a marketer has only 2,000 gallons of secondary containment volume, but needs 3000 gallons. The PE may decide that the additional 1,000 gallons of secondary containment is not practicable and therefore an Alternative SPCC plan would be developed. Please see more on ALTERNATIVE OIL SPILL CONTINGENCY PLAN requirements in this paper.**
- 13) Revises the trigger for submitting information on spills at SPCC regulated facilities to US EPA. Facilities are now required to submit information after having 2 discharges (over 42 gallons) in any 12-month period or a single discharge of more than 1,000 gallons.

- 14) **Allows deviations from most rule provisions (with the exception of secondary containment requirements) when equivalent environmental protection is approved by PE.** Non-applicable for self certification facilities under 10,000 gallons.

Most facilities that currently have SPCC Plans must amend (by Registered PE) these plans no later than October 31, 2007. The US EPA requires that the revised amendment plan be implemented by October 31, 2007. Owners and professional engineers must become familiar with the new standards that have been established by the industry and will be enforced by US EPA. Some relevant industry standards are API 340, API 2610, API 653, API 12R1, API 570, API 2350, NFPA30, PEI-RP200 and STI-SP001-00.

**US EPA will enforce the navigable waters definition in the SPCC rule, 112.2.** These waters are typically intra-state lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, tributaries, wetlands, industrial waters, normally dry ditches, or natural ponds.

**A 52 page US EPA sample Spill Plan can be downloaded at:**  
[http://www.epa.gov/oilspill/pdfs/guidance/D\\_BulkStoragePlan.pdf](http://www.epa.gov/oilspill/pdfs/guidance/D_BulkStoragePlan.pdf)

### **US EPA Defines "Oil"**

**§112.2** *Oil* means oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

The U.S. Coast Guard (USCG) compiled a list of substances it considers oil, based on the CWA definition. The list is available on the USCG Web site at <http://www.uscg.mil/vrp/faq/oil.shtml> Note, however, that the USCG list is not comprehensive and does not define "oil" for purposes of 40 CFR part 112. EPA may determine that a substance, chemical, material, or mixture is oil even if it is not on the USCG list.

### **Outline of SPCC Plan:**

#### **A. GENERAL DESCRIPTION**

Contact list and phone numbers.

#### **B. DESCRIPTION OF SPILL EVENTS WITHIN PAST 12 MONTHS**

#### **C. SPILL PREDICTIONS: DIRECTIONS, RATE OF FLOW, QUANTITY**

#### **D. GENERAL REQUIREMENTS: CONTAINMENT, DIVERSIONARY STRUCTURES**

#### **E. ALTERNATIVE STRONG OIL SPILL CONTINGENCY PLAN**

#### **F. SPECIFIC REQUIREMENTS**

1. Drainage from containment structures
2. Oil Storage Tanks
3. Facility Transfer
4. Loading and Unloading Facilities
5. Inspection and Test Records
6. Security
7. Personnel Training and Spill Prevention Procedures
8. Precipitation Release Schedule

#### **APPENDICES**

1. Plot Drawing of Facility and Map
2. Certification of Substantial Harm Criteria Form

### **Key Provisions of the Oil Pollution Prevention Regulation**

**Subpart A - Applicability, Definitions, and General Requirements.** For All Facilities and all Types of Oil. Includes sections 112.1, 112.2, 112.3, 112.4, 112.5, & 112.7.

**Subpart B - Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)** Includes sections 112.8, 112.9, 112.10, & 112.11.

**Subpart C—Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, including Oils from Seeds, Nuts, Fruits, and Kernels.** Includes sections 112.12, 112.13, 112.14, & 112.15.

#### **Subpart D—Response Requirements**

Sections 112.20 & 112.21.

Regulation 40 CFR part-112.7(c) & (h) generally requires the following secondary containment systems or their equivalents for Bulk Tanks, Loading & Unloading Racks and Piping Systems: Dikes, berms, retaining walls, curbing, culverts, gutters, weirs, booms, spill diversion ponds, impounding basins, or sumps, and sorbents to be sufficiently impervious.

**Definition of Sufficiently Impervious:** – (From US EPA Ombudsman memorandum of August 14, 2002 to Industry) Dikes, berms, or retaining walls must be **sufficiently impervious** to contain oil. The purpose of secondary containment is to contain oil from escaping the facility and reaching the environment. An **owner or operator of a facility should have flexibility** in how he prevents a discharge as described in §112.1(b) **and any method of containment which achieves that end is sufficient**. Similarly, because the purpose of the “**sufficiently impervious**” standard is to prevent discharges as described in §112.1(b), dikes, berms, or retaining walls must be capable of containing oil and preventing such discharges. Discharges as described in §112.1(b) may result from direct discharges from containers, or from discharges from **containers to groundwater that travel through the groundwater to navigable waters**. Effective containment means that the dike, berm, or retaining wall must be capable of containing oil and **sufficiently impervious** to prevent discharges from the **containment system until it is cleaned up**. The same holds true for containment floors or bottoms; they must be able to contain oil to prevent a discharge as described in §112.1(b). **However, “effective containment” does not mean that liners are required for secondary containment areas. Liners are an option for meeting the secondary containment requirements, but are not required by the rule.** (end)

The PE may use Hydraulic Conductivity readings that are site specific: i.e. 10 x-3 gallons/day/square foot ( $\approx 10 \times 10^{-6}$  cm./sec.) The reading indicates that for a 1000 sq. ft. secondary containment area the leak rate would be approximately 1.0 gallon per day or total of 3.0 gallons in 72 hours. Engineered Compacted Clays, Uncoated Concrete, Liners, Geo-Membranes may meet this requirement.

## ALTERNATIVE OIL SPILL CONTINGENCY PLAN

Ref. 112.7 (d)

**A sample Contingency Plan from US EPA can be downloaded at:**  
[http://www.epa.gov/oilspill/pdfs/guidance/F\\_ContingencyPlan.pdf](http://www.epa.gov/oilspill/pdfs/guidance/F_ContingencyPlan.pdf)

Under 40 CFR 112.7 (d) if you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c) to prevent a discharge as described in § 112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under § 112.20, provide in your Plan the following: (1) An oil spill contingency plan following the provisions of part 109 of this chapter. (2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

US EPA believes that it may be appropriate for an owner or operator to consider costs or economic impacts in determining whether he can meet a specific requirement that falls within the general deviation provision of §112.7(a)(2). US EPA states that **cost can be considered but cannot be the only consideration**. US EPA believes so because under this section, the owner or operator will still have to utilize good engineering practices and come up with an alternative that provides “equivalent environmental protection.” However, US EPA believes that the secondary containment requirement in §112.7(d) is an important component in preventing discharges as described in §112.1(b) and is environmentally preferable to a contingency plan prepared under 40 CFR part 109. The owner or operator may only provide a Contingency Plan in his SPCC Plan and otherwise comply with §112.7(d). Therefore, the purpose of a determination of impracticability is to examine whether space or other geographic limitations of the facility would accommodate secondary containment; or, if local zoning ordinances or fire prevention standards or safety considerations would not allow secondary containment; or, if installing secondary containment would defeat the overall goal of the regulation to prevent discharges as described in §112.1(b). **US EPA clarifies their main point that owners must not opt for a contingency plan in place of containment simply because contingency plans are cheaper.** Without question, secondary containment is a top priority of the US EPA and marketers must demonstrate best efforts in attempting to provide containment where practical

Applicable only if containment structures and provisions of preceding paragraph, "Containment and Drainage Control Structures", are not practicable. Owner must demonstrate the impracticability by explanation and justification. This CONTINGENCY Plan must be a "stand-alone" section of the SPCC Plan and must be sent to the US EPA Regional Administrator.

## **INSPECTIONS, TESTS, RECORDS**

Ref. 112.7 (e) & 112.8 (c)

The US EPA has also provided settlement agreements with PMAA on issues regarding Loading Racks, Tank Integrity Testing, Security, Produce Waters, and Cost regarding Reasons of Impracticability under 112.7(d). For a copy of the settlement agreement go to:

<http://www.epa.gov/oilspill/pdfs/SettlementAgreement.pdf>

For a copy of US EPA's letter to the Petroleum Marketers Association of America (PMAA) go to:

[http://www.epa.gov/oilspill/pdfs/PMAA\\_letter.pdf](http://www.epa.gov/oilspill/pdfs/PMAA_letter.pdf)

The Steel Tank Institute (STI) "STANDARD FOR THE INSPECTION OF ABOVEGROUND STORAGE TANKS" Table of Inspection Schedules may be used by the PE to help the owner comply with tank integrity testing requirements if applicable. The PE may use industry standards such as the STI Standard for testing and inspection standards. For a copy contact STI, 570 Oakwood Road, Lake Zurich, IL 60047, phone-847/438-8265, [www.steeltank.com](http://www.steeltank.com).

The STI Standard provides the minimum inspection requirements and the minimum evaluation criteria required to determine the suitability for continued service of aboveground storage tanks until the next scheduled inspection. The STI Standard is intended for use by organizations and/or individuals who are knowledgeable and experienced in aboveground tank inspection.

Periodic tank inspections are to be performed by the tank owner or his designate. Qualified tank inspectors are to perform the certified tank testing/inspections. Qualified tank inspectors are those who are certified by industry standards (API or STI) or at the direction of the PE.

PMAA advises marketers in states where the STI Standard may be adopted as State regulations, that residential heating oil tanks may come under the STI Standard if the state so chooses. The US EPA SPCC requirement does not apply to tanks below 1,320 gallons (this will exclude 99.9% of residential heating oil ASTs) however, the STI standard includes tanks down to 1.0 gallon capacity.

The inspections are for the basic part of the Plan. All owner inspection records are to be kept for a period of 3 years. All integrity testing documentation should be kept for the life of the facility. **The PE may use various Industry Standards or will use the equivalent environmental protection requirements allowed by US EPA: see 40 CFR 112.7(a) (2)** Comply with all applicable requirements listed in this part. **Your plan may deviate** from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in **subparts B** and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c), where applicable to a specific facility, **if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure.** Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c), **you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection.** If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in § 112.4(d) and (e).

**Tanks that meet US EPA Equivalent Environmental Protection will not have integrity testing requirements unless the PE decides otherwise.**

## **PMAA SETTLEMENT LANGUAGE:**

The regulations require that "you must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing." The regulations also allow deviations from this requirement where "you provide equivalent environmental protection by some other means of

spill prevention, control, or countermeasure. It is US-EPA's view that for well-designed shop-built containers with a shell capacity of 30,000-gallons or under, combining appropriate visual inspection with the measures described below would generally provide environmental protection equivalent to that provided by visual inspection plus another form of testing. Specifically, the US EPA generally believes that visual inspection plus elevation of a shop-built container in a manner that decreases corrosion potential (as compared to a container in contact with soil) and makes all sides of the container, including the bottom, visible during inspection (e.g., where the containers are mounted on structural supports, saddles, or some forms of grillage) would be considered "equivalent." In a similar vein, **US EPA also generally believe an approach that combines visual inspection with placement of a barrier between the container and the ground, designed and operated in a way that ensures that any leaks are immediately detected, to be considered "equivalent."** For example, US EPA believes it would generally provide equivalent environmental protection to place a shop-built container on an adequately designed, maintained, and inspected synthetic liner. US EPA believes these approaches would generally provide equivalent environmental protection when used for shop-built containers (which generally have a lower failure potential than field-erected containers), because these approaches generally reduce corrosion potential and ensure detection of any container failure before it becomes significant.

In determining the appropriate SPCC plan requirements for visual inspection of containers managed as described above, US EPA suggest that the PE begin by consulting appropriate industry standards, such as those listed in Steel Tank Institute Standard SP001 and API Standard 653. Similarly, in assessing whether a shop-built container is well designed, the PE may wish to consult industry standards such as Underwriters Laboratory 142 or API Standard 650, Appendix J. **Where a facility is considering the use of the above approaches for containers that are currently resting on the ground, or have otherwise been managed in a way that presents risks for corrosion or are showing signs of corrosion, US EPA recommends the facility first evaluate the condition of the container in accordance with good engineering practices, including seeking expert advice, where appropriate.**

112.7(e) Inspections, tests, and records. Conduct inspections and tests required by this part in accordance with written procedures **that you or the certifying engineer develop for the facility.** You must 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 paragraph.

**PMAA feels that you do not have to hire an outside inspector if the owner/PE has the expertise to develop the inspection schedule and conduct the inspections.**

Sub-Part B 112.8-(c) (6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. The frequency of and type of testing must take into account container size and design (such as floating roof, skid-mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

**The exception to the above Sub-Part B 112.8-(c) (6) applies if the PE decides that the Tanks meet Equivalent Environmental Protection and notes the reasons in the plan.**

**You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement. However, US EPA does not require pressure testing or any other specific method. US EPA agrees that, subject to good engineering practice, pressure testing every three or four years may be warranted in addition to regular inspection of aboveground valves, piping, and appurtenances.**

## **US EPA REGIONAL INSPECTOR GUIDANCE DOCUMENT**

On December 2, 2005, EPA released the *SPCC Guidance for Regional Inspectors*. The guidance document is intended to assist regional inspectors in reviewing a facility's implementation of the Spill Prevention, Control, and Countermeasure (SPCC) rule at 40 CFR part 112 and understanding the rule's

applicability, and to help clarify the role of the inspector in the review and evaluation of the performance-based SPCC requirements. The guidance document is also available to owners and operators of facilities that may be subject to the requirements of the SPCC rule and the general public on how EPA intends the SPCC rule to be implemented. The document is designed to provide a consistent national policy on several SPCC-related issues.

The 520 page guidance document can be downloaded at:  
<http://www.epa.gov/oilspill/guidance.htm#Content>.

US EPA guidance addresses issues such as inspection frequency, scope (e.g., internal and /or external), training and/or qualifications of persons conducting the inspections, environmental equivalence, secondary containment and impracticability determinations, oil water separators, site diagrams and other measures that may be appropriate at a given site (e.g., measures to detect the presence of water in a container). US EPA has used industry standards in developing such guidance.

## **LOADING AND UNLOADING FACILITIES**

(Ref. 112.7 (h) & 112.8 (d))

**Transportation rules:** In addition to the US EPA UST and SPCC regulations, the U.S. Department of Transportation has hazardous material regulations related to driver training, emergency preparation, and incident reporting and emergency response. Training regulations, for example, can be found at 49 CFR part 172, and loading and unloading regulations can be found at 49 CFR 177.834 and 49 CFR 177.837.

**40 CFR 112.7 (h) Facility tank car and tank truck loading/unloading rack:** (1) Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading and unloading areas. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility. (2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle break interlock system in loading/unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines. (3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

The US EPA does not interpret §112.7(h) to apply beyond activities and/or equipment associated with tank car and tank truck loading/unloading racks. Therefore, loading and unloading activities that take place beyond the rack area would not be subject to the requirements of 40 CFR §112.7(h) (but, of course, would be subject, where applicable, to the general containment requirements of 112.7(c)). US EPA interprets §112.7(h) only to apply to loading and unloading “racks.” Under this interpretation, if a facility does not have a loading or unloading “rack,” §112.7(h) does not apply. The US EPA did not mean to imply that any particular categories of facilities, such as production facilities, are likely to have loading or unloading racks present. US EPA believes that the proper standard of “sufficient freeboard” to contain precipitation is that amount necessary to contain precipitation from a 25-year, 24-hour storm event.

### **US EPA Sample calculation of appropriate secondary containment capacity at a transfer area.**

**Scenario:** A fuel truck is loading oil into a heating oil tank at a regulated facility, with an attendant present throughout the operation.

**Details:** The truck is loading at a rate of 150 gallons per minute.

- The reasonably expected source and cause of a discharge is a ruptured hose connection.
- A shutoff valve is present on the loading line and is accessible to the attendant.
- An evaluation determines that the discharge will not impede the attendant’s access to the shutoff valve and that he can safely close the valve within 10 seconds of the hose connection rupture, based on past experience under similar circumstances; 15 seconds is assumed to be a conservative estimate of the response time.

**Calculations:**

The maximum reasonably expected discharge would be calculated to be 150 gallons: [(150 gal/min) x (1 min/60 sec) x (15 sec)] = 37.5 gallons

**Conclusion:**

Secondary containment volume should be at least 37.5 gallons. A larger volume for secondary containment would be needed if time required to safely close the shutoff valve takes longer than 10 seconds. A number of other factors may also affect the appropriate volume of secondary containment