

**NATURAL RESOURCES CONSERVATION SERVICE**  
**CONSERVATION PRACTICE STANDARD**  
**ON-FARM SECONDARY CONTAINMENT FACILITY**

(No.)  
**CODE 319**

**DEFINITION**

A permanent facility designed to provide secondary containment of oil and petroleum products used on-farm.

**PURPOSE**

To minimize the risk of accidental release of stored oil and petroleum products used in agricultural operations to support the following purposes:

- Control accidental release of oil and petroleum products to prevent contamination of groundwater and surface waters.
- Provide measures for a safe, effective and timely manner for clean-up of a spill or leak.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice is applicable to agricultural areas where:

- An oil and petroleum product storage facility will be used for agricultural purposes.
- Spillage of oil and petroleum products would pose a contamination threat to soil, groundwater, or surface water.

On-farm oil products include diesel fuel, gasoline, lube oil, hydraulic oil, adjuvant oil, crop oil, vegetable oil, or animal fat, as identified by U.S. EPA's Oil Spill, Prevention, Control, and Countermeasure (SPCC) regulation (40 CFR 112 Oil Pollution Prevention).

This practice does not apply to the removal

of existing oil and petroleum storage tanks.

This standard does not apply to underground storage tanks.

This standard does not apply to commercial suppliers or multi-landowner storage facilities.

**CRITERIA**

**Laws and Regulations** Plan, design, and construct secondary containment facility to meet all federal, state, and local laws and regulations. The owner or operator is responsible for securing all required permits or approvals and for performing in accordance with such laws and regulations.

U.S.EPA's SPCC regulation (40 CFR 112) provides the criteria for farms which require either a self-certified or Professional Engineer prepared and certified SPCC plan. If required by 40 CFR 112, a SPCC plan must be in place to implement this practice.

**General Containment**

Use only containment systems constructed, manufactured or fabricated for the purpose of containing oil, fuel, or other on-farm petroleum products..

Anchor non-mobile oil storage tanks to the bottom of the secondary containment facility to prevent the tank from floating in the event of a catastrophic leak or accidental spill.

Locate tanks on a clean hard or compacted surface where leaks can be detected, collected and contained. Use a similar surface beneath any pipes or appurtenances in the vehicle filling area.

Containment structures exposed to rain will have provisions for removal of accumulated

rain water. Types of water removal systems can include sump and pump or a valve and outlet pipe.

Prevent runoff water from storms equal to or less than the 25-year, 24-hour storm event from entering the secondary containment facility.

### **Location**

Locate above the 100-year floodplain elevation. However, if site restrictions require location within a floodplain, design to protect the facility from inundation and damage from the 25-year flood event.

Evaluate the potential risk to water quality associated with petroleum products planned or present on the farm. Locate secondary containment facility:

- As far as practical from streams, ponds, lakes, wetlands, sinkholes, and water wells, with a minimum setback distance of 100 feet;
- 25 feet away from on-farm traffic and 75 feet away from major off-farm traffic flow;
- 10 feet away from any building to limit the spread of a fire.

### **Sized Containment**

Use a double walled tank, a covered impermeable structural barrier sized to contain 100% of the capacity of the largest storage tank, or an uncovered containment sized to hold 100% capacity of the largest container plus the volume of the 25-year 24-hour rainfall event.

### **Structural Design**

Address all factors that will influence the performance of the structure, including expected loading, storage tank sizes, material properties, and construction quality. Base the structural design of the containment facility, including earthen dikes and roofed structures (if applicable) on the criteria contained in the NRCS Conservation Practice Standard (CPS) *Waste Storage Facility* (Code 313) and *Roofs and Covers* (Code 367).

### **Safety**

Provide the storage facility with appropriately marked signs. Post a No Smoking sign near the fueling areas. Ensure that all fill ports are painted with the appropriate paint code according to API Standard 1637.

Provide security measures to limit unauthorized access to the storage tanks and secondary containment structures such as security lighting, fencing, and locks on fuel dispensers.

Protect storage tanks from damage by vehicles, tractors, and other farm equipment.

Provide adequate ventilation in roofed structures to prevent the buildup of excess fumes and development of vacuum or pressure exceeding the design pressure as a result of filling, emptying, or atmospheric temperature changes.

### **CONSIDERATIONS**

A secondary containment facility may be roofed, sided or otherwise covered to prevent rain, snow, and debris from accumulating in the outside barrier of the containment.

Tanks should have a level gauge. Pipe connections to the tanks should be at the top of the tanks to prevent a spill from a leaky connection. Locate piping and controls to all valves above ground and within the secondary containment structure.

Consider elevating horizontal tanks to ease inspection for leaks.

Install automatic shutoff valves on electrically operated dispensers.

### **PLANS AND SPECIFICATIONS**

Prepare plans and specifications for on-farm secondary containment facility that describe the requirements for applying the practice to achieve its intended purpose. As a minimum, provide the following in the plans and specifications:

1. Plan view of system layout.
2. Structural and material details of all components including drawings and specifications.

3. Locations, sizes, and type of pipelines and appurtenances.
4. Requirements for foundation preparation and treatment.
5. Safety features, fencing, and signage.
6. Location of utilities and notification requirements.

### **OPERATION AND MAINTENANCE**

Prepare an operation and maintenance plan that is specific to the components used on the site. Provide instructions for operating and maintaining components to ensure proper function.

Maintain a list of all the storage tank capacities and products the tanks contain for each secondary containment facility.

Provide for inspection of storage tanks regularly according to the schedule outlined in the facility SPCC plan. As a minimum, tanks should be inspected monthly and repairs conducted promptly for:

- Leaks.
- Rust or corrosion.
- Accumulation of trash or weeds.
- Proper labeling and signage.
- Condition of valves, fittings and hoses.
- Collected precipitation.

Provide instructions for testing all accumulated rain water for contamination before removal from the containment structure. Typical contamination testing may involve on-site analysis of rainwater including a visual observation to determine a discoloration or sheen on water surface or the presence of an odor of petroleum products in the water.

Perform maintenance as needed. Keep records of inspection and repair.

### **REFERENCES**

American Petroleum Institute (API), Standard 1637, "Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Gasoline Dispensing Facilities and Distribution Terminals."

Underwriters Laboratories, Standard No. 142, "Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids."

Environmental Protection Agency, The Spill Prevention, Control, and Countermeasure (SPCC) rule.  
<http://www.epa.gov/emergencies/content/spcc/index.htm>