

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 one or both of the following purposes:

1. To control accidental release of oil and petroleum products to prevent contamination of groundwater and surface waters;
2. To 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:

1. An oil and petroleum product storage facility will be used for agricultural purposes;
2. 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; underground storage tanks; and commercial suppliers or multi-landowner storage facilities.

CRITERIA**General Criteria Applicable to All Purposes**

Laws and Regulations. Plan, design, and construct the 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.

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

Containment structures shall be planned and designed so that rainwater will not enter the structure where fuel may spill.

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.

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

1. As far as practical from streams, ponds, lakes, wetlands, sinkholes, and water wells, with a minimum setback distance of 100 feet;
2. 25 feet away from on-farm traffic and 75 feet away from major off-farm traffic flow;
3. 10 feet away from any building to limit the spread of a fire.

Sized Containment. Use a double walled tank or a covered impermeable containment structure sized to contain 100% of the capacity of the largest storage tank.

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, concrete walls, and roofed structures (if applicable) on the criteria contained in the Delaware conservation practice standards for Waste Storage Facility (313) and Roofs and Covers (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.

Note: Specific programs may dictate criteria in addition to, or more restrictive than, those specified in this standard.

CONSIDERATIONS

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.

This practice has the potential to affect National Register listed cultural resources or eligible (significant) cultural resources. These may include archeological, historic, or traditional cultural properties. Care should be taken to avoid adverse impacts to these resources. Follow NRCS state policy for considering cultural resources during planning.

PLANS AND SPECIFICATIONS

Plans and specifications for this practice shall be prepared in accordance with the previously listed criteria. Plans and specifications shall contain sufficient detail to ensure successful implementation of this practice. Documentation shall be in accordance with the "Supporting Data and Documentation" section of this standard.

OPERATION AND MAINTENANCE

An operation and maintenance (O&M) plan shall be prepared for use by the owner or others responsible for operating and maintaining the system. The plan shall provide specific

instructions for operating and maintaining the system to insure that it functions properly. It shall also provide for periodic inspections and prompt repair or replacement of damaged components, and repair of any erosion that may occur around the facility. Appropriate Fact Sheets may be used as supporting documentation and shall be provided to those responsible for O&M.

At a minimum, the following components shall be addressed in the O&M plan, as applicable:

1. Maintain a list of all the storage tank capacities and products the tanks contain for each secondary containment facility;
2. Provide for inspection of storage tanks and containment facility regularly according to the schedule outlined in the facility SPCC plan. At a minimum, tanks and structures should be inspected monthly and repairs conducted promptly for:
 - a. Leaks;
 - b. Rust or corrosion;
 - c. Accumulation of trash or weeds;
 - d. Proper labeling and signage;
 - e. Condition of valves, fittings and hoses;
 - f. Condition of structures.
3. Perform maintenance as needed. Keep records of inspection and repair.

SUPPORTING DATA AND DOCUMENTATION

The following is a list of the minimum data and documentation to be recorded in the case file:

1. Location of the practice on the conservation plan map;
2. Assistance notes. The notes shall include dates of site visits, name or initials of the person who made the visit, specifics as to alternatives discussed, decisions made, and by whom.

Field Data and Survey Notes

The following is a list of the minimum data needed:

1. Plan view sketch;
2. Site access;
3. A topographic survey of the site location;
4. Location of all buildings, wells, and other permanent features adjacent to the site;
5. Profile from the site to possible roof water outlet;
6. Soil investigation notes and potential high water.

Design Data

Record on appropriate engineering paper. For guidance on the preparation of engineering plans see Chapter 5 of the Engineering Field Handbook, Part 650. The following is a list of the minimum required design data:

1. A plan view of the facility with contours, buildings, well, streams, etc.;
2. Detail designs of the components: pad, roof, etc.;
3. Calculations showing design and required storage capabilities;
4. List of quantities with supporting computations;
5. Erosion and sediment control measures, and surface water control devices;
6. Show construction specifications on drawings.

Utilities Notification

1. Forms ENG-5 and ENG-6 can be used to assist in tracking utility notifications;

2. Document on CPA-6 initial discussion about the landowner's responsibility to notify Miss Utility;
3. Document on CPA-6 any information from the landowner about the existence and location of known utilities;
4. Document on CPA-6 assurances from the landowner that Miss Utility has been notified, including staking by the utilities.

Construction Check Data/As-Built Plans

Record on survey notepaper, NRCS-ENG-28, or other appropriate engineering paper. Survey data will be plotted in red on the as-built plans. Document approval by the designer of any changes from the drawings or specifications before implementation of the change.

The following is a list of minimum data needed for as-built documentation:

1. Final elevations, depths and dimensions.
2. Location of buried pipelines and power cables where installed as part of facility;
3. Final quantities and documentation for quantity changes and materials certification;
4. Sign and date check notes and plans by someone with appropriate approval authority. Include statement that practice meets or exceeds plans and NRCS practice standards.

In addition, the as-built drawings shall include name of the installer, manufacturer, and date of completion of each transfer system and/or component. The as-built records shall also include any applicable "Statement of Conformance" presented or certified by suppliers of structures or equipment. The design folder, as-built drawings, certifications, and specifications shall be filed in the case file.

REFERENCES

1. 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.*
2. Underwriters Laboratories. *Standard No. 142, Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids.*
3. USDA, Natural Resources Conservation Service. *Conservation Practice Standards. Delaware Field Office Technical Guide, Section IV.*
4. U.S. Environmental Protection Agency. *The Spill Prevention, Control, and Countermeasure (SPCC) Rule.*
<http://www.epa.gov/emergencies/content/spcc/index.htm>