

SAMPLE

*The following sample **Spill Prevention, Control and Countermeasure Plan** was released in January 1997 by EPA Region V headquarters as a guide to help companies develop their own SPCC plans. Unfortunately, EPA did not select a machine shop for their example. Any PMPA member who has an SPCC plan which they would like to share with other members should contact PMPA.*

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

TEX'S BULK STORAGE TERMINAL

100 Everspill Road
Post Office Box 311 (K)
Oily City, VA 12345

SJ Oil Company
P. O. Box 00002
Crude City, VA 77777

CONTACT
Steve Doe, Facility Manager

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.

Engineer: Eric Simmons

Signature: *Eric Simmons*

Registration Number: 98765

State: Commonwealth of Virginia

Date: June 11, 1974

FACILITY INFORMATION

Facility Name: Tex's Bulk Storage Terminal

Mailing Address: P. O. Box 311 (K)
Oily City, VA 12345

Street Address: 100 Everspill Road
Oily City, VA 12345
Telephone: (123) 222-2222

Owner: SJ Oil Company
P. O. Box 00002
Crude City, VA 77000
Telephone: (123) 222-3333

Contact Name: Steve Doe, Facility Manager
505 Oil Road
Oily City, VA 12345
Telephone: (123) 222-4444

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

Location: The facility is located in North-West County, Virginia, approximately 250 yards west of Carol Creek. The facility is bordered to the north by Everspill road and to the west by the Regina Expressway. Approximate facility coordinates are latitude 40°00'00.0" north and longitude 77°00'00.0" west.

Facility Description: Tex's Bulk Storage Terminal handles, stores and distributes petroleum products in the form of motor gasoline, kerosene and No. 2 fuel oil. Figure 1, the "Site Map," shows the site boundaries, nearby waterways, adjacent highways, oil handling facilities, and the office.

(Note: A site map showing layout of property boundaries, buildings, storage areas, nearby waterways, roads, etc. should be included in the written SPCC Plan.)

Fixed Storage: (2) 100,000-gallon aboveground vertical tanks (1 premium gas & 1 reg gas)
(2) 20,000-gallon aboveground vertical tanks (No. 2 fuel)
(1) 20,000-gallon aboveground vertical tank (kerosene)
(1) 5,000-gallon underground horizontal tank (No. 2 fuel)
(Variable stock) 55-gallon drums of motor oil

(Note: the "Fixed Storage" information can be provided on the Site Map showing location, contents, type, and capacity.)

Portable Storage: (1) 1,000-gallon aboveground horizontal tank (regular gasoline)

Total Oil Storage: 266,000 gallons

In-Plant Treatment: A 3,000-gallon oil/water separator used to treat drainage is located in the north-east corner of the facility. Separator effluent is discharged into Carol Creek under state and federal permits.

Vehicles: (1) Transport Truck (4) Tank wagon Delivery Trucks

SPCC PLAN REVIEW - 40 CFR 112.5(b)

The owner or operators must complete a review and evaluation of the SPCC plan at least once every three years. Evidence of these reviews shall be recorded in the plan.

<u>Signature</u>	<u>Date</u>	<u>Comments</u>
<u>Steve Doe</u>	<u>6/10/77</u>	<u></u>
<u>Steve Doe</u>	<u>6/2/80</u>	<u>No Change</u>
<u>Steve Doe</u>	<u>6/1/83</u>	<u>New Personnel</u>
<u>Steve Doe</u>	<u>5/21/86</u>	<u>New Truck</u>
<u>Steve Doe</u>	<u>5/15/89</u>	<u>No Change</u>
<u>Steve Doe</u>	<u>5/13/92</u>	<u>No Change</u>
<u>Steve Doe</u>	<u>5/11/95</u>	<u>New Personnel</u>
<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>

MANAGEMENT APPROVAL - 40 CFR 112.7(a)

This SPCC plan is fully approved by the management of Tex's Bulk Storage Terminal and the necessary resources have been committed to implement the plan as described.

Steve Doe
Steve Doe - Facility Manager

6/11/74
Date

PAST SPILL EXPERIENCE - 40 CFR 112.7(a)

<u>Written Description of Spill</u>	<u>Corrective Actions Taken</u>	<u>Plan for Preventing Recurrence</u>
On 5/17/83, the oil/water separator malfunctioned, allowing 3 to 5 gallons of oil to enter Carol Creek.	A boom was placed on Carol Creek immediately after the malfunction was discovered.	The oil/water separator was repaired. Inspection and maintenance of the separator was improved to minimize the chances of future recurrence.
On 11/7/91, tank 3 was overfilled during refilling after the visual level gauge failed. Approximately 300 gallons were spilled.	No. 2 fuel spilled within secondary containment and was cleaned up using absorbent. Contaminated soil was removed.	High level alarms were installed on all aboveground tanks in addition to the 100,000-gallon tanks. The level indicators and alarms are regularly tested to ensure proper operation.

POTENTIAL EQUIPMENT FAILURES - 40 CFR 112.7(b)

<u>Potential Event</u>	<u>Spill Description</u>	<u>Volume Released</u>	<u>Spill Rate</u>
Complete failure of a full tank.	East to Carol Creek	100,000 gallons	Instantaneous
Partial failure of a full tank	East or north to Carol Creek or the oil/water separator	1 to 99,000 gallons	Gradual to instantaneous
Tank overfill	North to the oil/water separator	1 to many gallons	Up to 1 gallon per minute
Pipe failure	North or east to the oil/water separator or Carol Creek	Up to 20,000 gallons	4 gallons per second
Leaking pipe or valve packing	North or east to the oil/water separator	Several ounces to several gallons	Up to 1 gallon per minute
Tank truck leak or failure	Northeast to the oil/water separator	1 to 8,000 gallons	Gradual to instantaneous
Hose leak during truck loading	Northeast to the oil/water separator	1 to several gallons	Up to 1 gallon per minute

Pump rupture or failure	North or east to the oil/water separator	1 to several gallons	Up to 1 gallon per minute
Oil/water separator malfunction	East to Carol Creek	1 to several gallons	Up to 1 gallon per minute

CONTAINMENT AND DIVERSIONARY STRUCTURES - 40 CFR 112.7(c)(1)

- i. Dikes are provided around tanks 1,2,3,4, and 5, which store oil products.
- ii. The loading and unloading area for tank trucks is curbed to provide secondary containment.
- iii. Surface drainage at the facility is engineered so that oil spilled outside of diked or curbed areas at the facility will drain into the oil/water separator.
- iv. Weirs, booms, or other barriers are available from the local clean-up contractor.
- v. Sorbent materials are provided in emergency spill equipment lockers located strategically throughout the facility.

DEMONSTRATION OF PRACTICABILITY - 40 CFR 112.7(d)

Facility management has determined that use of the containment and diversionary structures of readily available equipment to prevent discharged oil from reaching navigable waters is practical and effective at this facility.

FACILITY DRAINAGE - 40 CFR 112.7(e)(1)

- i. Drainage from diked storage areas is restrained by valves to prevent a spill or other excessive leakage of oil into the facility's drainage system.
- ii. Gate valves are used to drain diked areas.
- iii. In the event of a spill from a tank, the oil should be contained within a dike. If a spill occurs during transfer or in a manner that cannot be contained in a dike, the material is in a drainage area as indicated in the Site Map. Facility drainage from undiked areas with the potential of receiving spilled oil terminates at the oil/water separator.
- iv. Facility drainage systems are adequately engineered to prevent oil from reaching navigable water in the event of equipment failure or human error.

BULK STORAGE TANKS - 40 CFR 112.7(e)(2)

- i. Each aboveground tank is of UL-142 construction and is compatible with the oils it contains and conditions of storage.
- ii. All aboveground tanks have concrete dikes for secondary containment with a volume greater than 110 percent of the largest single tank.
- iii. Rainwater will be drained from the dike area, bypassing any treatment, if:
 - A. The bypass valve is normally sealed closed.
 - B. Run-off rainwater is inspected to ensure compliance with applicable water quality standards and will not cause a harmful discharge.
 - C. The bypass valve is opened and resealed under supervision.
 - D. Records are kept of drainage events on the form shown in Attachment C.
- iv. The underground storage tank is coated and cathodically protected to prevent an undetected spill. The buried tank is also subject to pressure testing every two years.
- v. There are no partially buried tanks at the facility.
- vi. Above-ground tanks are tested every five years using a system of non-destructive shell thickness testing. Comparison records are maintained. Visual inspections are performed according to the procedure found in the Inspections and Records section and in the Facility Inspection Checklist section, and include inspection of tank supports and foundations.
- vii. There are no internal heating coils at this facility.
- viii. Each tank is equipped with a direct-reading level gauge. The 100,000-gallon tanks are equipped with high-level alarms. Venting capacity is suitable for the fill and withdrawal rates.
- ix. Plant effluent discharged into Carol Creek is observed at least as frequently as required by NPDES permit VA00000012 to detect possible upsets in the oil/water separator.
- x. Oil leaks which result in a loss of oil from tank seams, gaskets, rivets, and bolts are promptly corrected.
- xi. The portable oil tank and other mobile oil storage, such as 55-gallon drums, are provided with secondary containment, and located where they will not be subject to periodic flooding.

CONTAINMENT VOLUME CALCULATION WORKSHEET

Rectangle: $l \times w \times h$

$$\text{volume (gallons)} = \text{length (ft)} \times \text{width (ft)} \times \text{height (ft)} \times 7.48 \text{ gallons/ft}^3$$

Circle: $\Pi r^2 \times h$, where $\Pi = 3.14159$

$$\text{volume (gallons)} = 3.14159 \times \text{radius}^2 \text{ (ft}^2\text{)} \times \text{height (ft)} \times 7.48 \text{ gallons/ft}^3$$

Displacement volume by all tanks within dike other than the largest tanks: $V_D = (V_{T1}) + (V_{T2}) + (V_{T3}) + \dots$

$$\text{volume}_D = [(\Pi r_{TANK1}^2 \times \text{height of dike}) + (\Pi r_{T2}^2 h) + \dots] \times 7.48 \text{ gallons/ft}^3$$

Dike Capacity: $V_C - V_D$

capacity (gallons) = calculated volume based on shape of dike (gal) - displacement volume (gal),

then convert to percentage of volume of the largest tank.

CONTAINMENT VOLUME FOR TANKS 1 & 2

Volumes: Tank 1 (T1) = 100,000 gallons

Tank 2 (T2) = 100,000 gallons

Diameters: T1 & T2 = 4 ft

Dike height = 5 ft

Dike width = 36 ft

Dike length = 85 ft

Dike Volume:

$$(85' \times 36' \times 5') = 15,300 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 = 114,444 \text{ gallons}$$

Displacement Volume:

$$(3.14159 \times 2^2 \text{ ft} \times 5 \text{ ft}) = 63 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 = 471 \text{ gallons}$$

Dike Capacity:

$$114,444 \text{ gallons} - 471 \text{ gallons} = 113,973 / 100,000 \times 100 = 114\% \text{ containment volume of largest tank}$$

CONTAINMENT VOLUME FOR TANKS 3, 4 & 5

Volumes: Tank 3(T3) = 20,000 gallons
Tank 4(T4) = 20,000 gallons
Tank 5(T5) = 20,000 gallons

Diameters: T3, T4 & T5 = 2 ft

Dike Height = 5 ft
Dike width = 7 ft
Dike length = 85 ft

Dike Volume:

$$(85' \times 7' \times 5') = 2,975 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 = 22,253 \text{ gallons}$$

Displacement Volume:

$$2(3.14159 \times 1^2 \text{ft} \times 5\text{ft}) = 31.4\text{ft}^3 \times 7.48 \text{ gal/ft}^3 = 235 \text{ gallons}$$

Dike Capacity:

$$22,253 \text{ gallons} - 235 \text{ gallons} = 22,018/20,000 \times 100 = 110\% \text{ containment volume of largest tank.}$$

TRANSFER OPERATION, PUMPING AND IN-PLANT PROCESSES - 40 CFR 112.7(e)(3)

- i. Buried piping is coated and cathodically protected to protect against corrosion. When a section of buried line is exposed, it is carefully examined for deterioration. If corrosion damage is found, additional examination and corrective action will be taken as indicated by the magnitude of the damage.
- ii. Pipelines not in service or on standby for an extended period are capped or blank-flanged and marked as to their origin.
- iii. All pipe supports are properly designed to minimize abrasion and corrosion and to allow for expansion and contraction.
- iv. All aboveground piping and valves are examined monthly to assess their condition. Pressure testing for piping is conducted every five years.
- v. Warning signs are posted as needed to prevent vehicles from damaging aboveground pipelines.

TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK - 40 CFR 112.7(e)(4)

- i. The tank truck loading and unloading procedures meet the minimum requirements of the U.S. Department of Transportation.
- ii. Curbing is installed at the vehicle loading/unloading rack and holds the capacity of the single largest compartment of any truck used at the facility.
- iii. Warning signs and chock blocks are provided at the loading/unloading rack to prevent premature vehicular departure.
- iv. The lower most drain and all outlets on tank trucks are inspected prior to filling and departure.

INSPECTIONS AND RECORDS - 40 CFR 112.7 (e)(8)

Daily visual inspections consist of a complete walk through of the facility property to check for tank damage or leakage, stained or discolored soils, excessive accumulation of water in diked areas, plant effluent discharged from the oil/water separator, and to ensure the dike drain valves are securely closed.

The checklist provided in Attachment B is used during monthly inspections. These inspections are performed in accordance with written procedures developed for the facility by the owner or operator. Written inspection procedures and monthly inspections are signed by the inspector and maintained with this plan for three years.

SECURITY - 40 CFR 112.7(e)(9)

- i. The facility is surrounded by steel security fencing and the entrance gates are locked when the facility is unattended.
- ii. The master flow and drain valves are locked in the closed position when in non-operating or standby status.
- iii. The electrical starter controls for the oil pumps are located in the office, which is locked when the pumps are not in use.
- iv. The loading and unloading connections of oil pipelines are capped when not in service or when in standby service for an extended time.
- v. Two area lights are located so as to illuminate the office and storage areas. Consideration in the location of the lights was given in order to discover spills at night and prevent spills occurring through vandalism.

PERSONNEL, TRAINING AND SPILL PREVENTION PROCEDURES - 40 CFR 112.7(e)(10)

- i. Facility personnel have been instructed by management in the operation and maintenance of oil pollution prevention equipment and pollution control laws and regulations.
- ii. The facility manager, Steve Doe, is accountable for oil spill prevention at Tex's Bulk Storage Terminal.
- iii. Yearly spill prevention briefings are provided by management for operation personnel to ensure adequate understanding of the SPCC plan. These briefings highlight any past spill events or failures and recently developed precautionary measures. Training has been held on oil spill prevention, containment and retrieval methods. A simulation of an on-site vehicular spill has been conducted and future exercises shall be periodically held to prepare for possible spill response. Records of these briefings and spill prevention training are kept on the form shown in Attachment D. Instructions and phone numbers regarding the reporting of a spill to the National Response Center and the state are listed below and have been publicized and posted in the office.

EMERGENCY TELEPHONE NUMBERS

Emergency 911

A. Notification Procedures

- | | |
|--|----------------|
| 1. Facility Manager, Steve Doe | (123) 222-3333 |
| 2. National Response Center | (800) 424-8802 |
| 3. U.S. EPA Region V Spill Phone | (312) 353-2318 |
| 4. State Emergency Response Commission | (123) 555-2221 |

B. Clean-up Contractors

- | | |
|--------------------------|----------------|
| 1. E-Z Clean Environment | (123) 222-3038 |
| 2. O.K. Engineers, Inc. | (123) 222-2207 |

C. Supplies and Equipment

- | | |
|-----------------------------|----------------|
| 1. Oil City Equipment Co. | (123) 222-8372 |
| 2. Northwestern Sorbent Co. | (123) 222-9217 |

CERTIFICATION OF SUBSTANTIAL HARM DETERMINATION FORM (Attachment A)

Facility Name: Tex's Bulk Storage Terminal
Facility Address: 100 Everspill Road
Oil City, VA 12345

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes _____ No

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground storage tank area?

Yes _____ No

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes _____ No

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using an appropriate formula) such that a discharge from the facility would shut down a public drinking water intake**?

Yes _____ No

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _____ No

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Steve Doe
Signature

Facility Manager
Title

Steve Doe
Name (please type or print)

July 1, 1994
Date

FACILITY INSPECTION CHECKLIST (Attachment B)

Instructions: This inspection record will be completed every month. Place an X in the appropriate box for each item. If any response requires elaboration, do so in the Descriptions & Comments space provided. Further descriptions or comments should be attached on a separate sheet of paper if necessary.

	<u>Yes</u>	<u>No</u>	<u>Descriptions & Comments</u>
Tank surfaces show signs of leakage	<input type="checkbox"/>	<input type="checkbox"/>	_____
Tanks are damaged, rusted or deteriorated	<input type="checkbox"/>	<input type="checkbox"/>	_____
Bolts, rivets, or seams are damaged	<input type="checkbox"/>	<input type="checkbox"/>	_____
Tank supports are deteriorated or buckled	<input type="checkbox"/>	<input type="checkbox"/>	_____
Tank foundations have eroded or settled	<input type="checkbox"/>	<input type="checkbox"/>	_____
Level gauges or alarms are inoperative	<input type="checkbox"/>	<input type="checkbox"/>	_____
Vents are obstructed	<input type="checkbox"/>	<input type="checkbox"/>	_____
Valve seals or gaskets are leaking	<input type="checkbox"/>	<input type="checkbox"/>	_____
Pipelines or supports are damaged or deteriorated	<input type="checkbox"/>	<input type="checkbox"/>	_____
Buried pipelines are exposed	<input type="checkbox"/>	<input type="checkbox"/>	_____
Loading/unloading rack is damaged or deteriorated	<input type="checkbox"/>	<input type="checkbox"/>	_____
Connections are not capped or blank-flanged	<input type="checkbox"/>	<input type="checkbox"/>	_____
Secondary containment is damaged or stained	<input type="checkbox"/>	<input type="checkbox"/>	_____
Dike drainage valves are open	<input type="checkbox"/>	<input type="checkbox"/>	_____
Oil/water separator is functioning properly	<input type="checkbox"/>	<input type="checkbox"/>	_____
Oil/water separator effluent has a sheen	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fencing, gates, or lighting is non-functional	<input type="checkbox"/>	<input type="checkbox"/>	_____

Remarks: _____

Signature: _____

Date: _____

RECORD OF DIKE DRAINAGE (Attachment C)

Instructions: This record will be completed when rainwater from diked areas is drained into a storm drain or into an open watercourse, lake or pond, and bypasses the in-plant treatment. The bypass valve normally should be sealed closed and only opened and resealed following drainage under responsible supervision.

<u>Diked Area</u>	<u>Date</u>	<u>Presence of Oil</u>	<u>Time Started</u>	<u>Time Finished</u>	<u>Signature</u>
<i>Area 1</i>	<i>4/5/94</i>	<i>no oil</i>	<i>0800</i>	<i>1000</i>	<i>Steve Doe</i>
<i>Area 1</i>	<i>5/2/95</i>	<i>no oil</i>	<i>0920</i>	<i>1100</i>	<i>Steve Doe</i>
<i>Area 1</i>	<i>7/8/95</i>	<i>no oil</i>	<i>0815</i>	<i>1010</i>	<i>Steve Doe</i>

RECORD OF SPILL PREVENTION BRIEFINGS AND TRAINING (Attachment D)

Instructions: Briefings will be scheduled and conducted by the owner or operators for operating personnel at intervals frequent enough to assure adequate understanding of the SPCC plan for this facility. These briefings should also highlight and describe known spill events or failures, malfunctioning components, and recently developed precautionary measures. Personnel will also be instructed in operation and maintenance of equipment to prevent the discharges of oil, and in applicable pollution control laws, rules, and regulations. During these briefings there will be an opportunity for facility operators and other personnel to share recommendations concerning health, safety and environmental issues encountered during operation of the facility.

Date: _____

Attendees: _____

Subjects and Issues: _____

Recommendations and Suggestions: _____
