

Environmental Safety, Sustainability & Risk

Spill Prevention, Control, and Countermeasures (SPCC)





The Purpose of an SPCC is to prevent the discharge of oil into navigable waters of the United States or adjoining shorelines as opposed to response and cleanup after a spill occurs.





The Federal Law

Oil Pollution Prevention Rule

- Became effective January 1974 (revised 2017).
- Authority Section 311 (j) (1) (c) of the Clean Water Act
- Promulgated under Title 40, CFR, Part 112



Oil Definitions

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;
- other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.



Applicability: How Much Oil?

- SPCC rule applies to facilities with:
 - >42,000 gallons buried
 - >1,320 gallons aboveground
 - This is based on storage containers ≥ 55-gallons
- Containers to include:
 - Bulk storage
 - Oil-filled equipment
 - Mobile/Portable Containers
- Containers not included in capacity:
 - Permanently Closed containers
 - UST Subject to 40 CFR 280 & 281





Spill Reporting

Facilities that discharge oil to navigable waters are subject to certain federal reporting requirements.

- 40 CFR 110, Discharge of Oil Regulation
- 40 CFR 112, Oil Pollution Prevention regulation
- State laws/regulations may differ or be more restrictive



SPCC Reporting Requirements

- Report to the EPA Regional Administrator (RA) when there is a discharge to navigable waters or adjoining shores of:
 - >1,000 Gal of oil in a single discharge
 - >42 Gal of oil in each of two discharges occurring within a 12 month period
- An owner / operator must report the discharge(s) to the EPA RA within 60 days
- All requirements found in CFR 40 112.4



MDE Reporting Requirements

 Report to MDE Emergency Response Division (1-866-633-4686) if an oil spill or discharge of <u>ANY QUANITY</u> a verbal report must be made within <u>TWO HOURS</u>

Verbal report must include:

- Time and location of discharge
- Type of facility involved
- Type and quantity of oil spilled
- Assistance required
- Name, address, telephone number of person making report
- Other pertinent info as requested by MDE

If spill is **5** Gallons or greater in quantity or if ANY QUANITY <u>reaches navigable</u> waters, a written report of the discharge must be submitted to MDE within 5 business days

MARYLAND DEPARTMENT of 5 1900 WASHENGTON BOULEVAR RALTMORE, MARYLAND, 2123 (419) 537-2000 1-800-833-8101 (within Maryland) http://www.mde.state.md.u		MDE 180	partment nergency Washin imore	Respon gton BN	nvironment se Division d. Suite #105 21230-1721		24 HOUR SPILL REPORTI (TOIL Free) 1-355-433-44 EMERGENCY RESPONSE OFFI (410) 537-33 RESPONSE OFFICE FACSIMI (410) 337-33 E OF OL, OR WHO ETHER ACTIVELY OF E OF OL, OR WHO ETHER ACTIVELY OF			
PASSNELY PARTICIPATES IN T KIND, SHALL REPORT THE INCI	THE DISCHARGE OR SP DENT IMMEDIATELY TO		THE REPORT		ALLATION, INCLUDING VEH L SPILL OR DISCHARGE SI	ICLES IN TRANSIT, OF IALL DE MADE TO TH	E OF OIL, OR WHO EITHER ACTIVELY OF I FROM ANY VESSEL SHIP OR BOAT OF A E ADMINISTRATION IMMEDIATELY, BUT IL, SEE REVERSE ***			
ADC Map Coord					Time of spi		Hours (p+ hour closh)			
	Fire Departme	nt Report No.:			Police Dep	artment Report	No.:			
Location of spill - St	reet address:		t Name:			Capacity	of Vessel, Vehicle or Tanl Gallons			
City / Town		Contai	(Indicate Geodine, Desel, Heating DI, Chemical Name or UN ID etc.) Container Type:			Amount _IN Vessel, Vehicle or Tani Gallons Estimated Amount Spilled:				
	MD County Zip		(Indicate AST, UST, Transformer, Saddle Tank, Drum			Estimated	Amount Spilled: Gallons			
		etc.)					Galiona			
Transportation Incident: Indicate Type of Auto, Train, Alcost or Watercraft etc.) Fixed Facility Incident:		En/	Contained on Land Entered Storm Drain or Ditch				Vehicle Tag Number and State:			
			Entered Sanitary Sewer Is Below Ground Entered surface waters:			DOT or ICC MC Number:				
(indicate Type of industrial , Comm	ercial , Residental etc.)		tered sur	face wa	ters:	Hull Number	s and Name:			
Person(s) Responsi Name:	ible for Spill:	(Driver if V	ehicle)	Be Sure to Complete	Company Responses	onsible for Sp	ill: (N/A if private citizen.)			
Address:			_	Both Sections	Address:					
			_	$ \rightarrow $						
City/State:				Don't	City/State:		Zip:			
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Cause of Spill: Motor Vehicle Ac Personnel Error/A Tank/Container/P Mechanical Failur Transfer Accident	ill Mitigation : MDE ERD # Federal : State : Local :	ation : Responsible Party Sorbent D D ##Sorbent F Sorbent F Sorbent Sorbent Sorbent Sorbent S			Dust: Pads: Booms: Sweeps:	to contain/clean-up spil Bags each or bales each or bales each or bales each or bales each or Poly				
Responsible Party : Describe						1	Optional for FD or Gov/t Person			
Responsible Party : Describe	Containment , Remo	val and Clean-up opera	flons , Indu	ding dispos	al. (Additional space on	tack) [Optional for FD or Gov/t Person			
Responsible Party : Procedur	es, Methods and Pre	cautions instituted to pr	event recum	ance of the	spill. (Additional space	on back) [Optional for FD or Gov/t Person			
THE UNDERSIONED CER	TIPLES THAT THE INFO	RMATION PROVIDED IS T	NUE AND CO	RRECT TO any or	HE BEST OF HIS OR HER I	NOWLEDGE AT THE	Optional for FD or Gov? Person time the report was completed.			



National Response Center (NRC)



- The Discharge of Oil regulation provides the framework for determining whether an oil discharge to inland and coastal waters or adjoining shorelines should be reported to the National Response Center at 1-800-424-8802
- Any person in charge of a vessel, onshore or offshore facility must notify NRC once there is knowledge of a discharge
- NRC will relay discharge information to EPA or USCG



SPCC Plan Requirements

Each Plan Must Include:

- 1. Description of physical layout and a facility diagram.
- 2. Key personnel contact list and phone numbers for the facility response coordinator, cleanup contractors, all appropriate federal, state, local agencies to contact.
- 3. Prediction of direction, rate of flow, and total quantity of oil that COULD be discharged if the potential for equipment discharge exists.
- 4. Description of <u>containment and/or</u> <u>diversionary structures</u> to prevent discharge from reaching navigable waters.
- 5. Description of site-specific spill prevention and control measures in place.



Additional Requirements

- Plan must have MANAGEMENT APPROVAL (signature)
- Plan must be prepared under the direct supervision of a P.E. (stamped)
- Plan must be maintained on-site <u>AVAILABLE AT ALL TIMES</u> for review by EPA/MDE.
- Key Facility Personnel must be <u>trained annually</u>. FOLLOW SOPs for any response actions!!!
- Plan must include periodic INSPECTIONS.
- Plan must be <u>revised/updated</u> to reflect facility changes.
- Plan required to be reviewed/revised at least every 5 YEARS.



Select a section to review:

- 1. SPCC Rules Specific to Facilities Management and DOTS
- 2. <u>SPCC Rules Specific to Dining</u> Services
- 3. SPCC Rules Specific to Farms





SPCC Rules Specific to Facilities Management and DOTS



UMD SPCC Details

- Over 85 tanks*
 - Generators, ASTs, Day Tanks, Lube Reservoirs
- Over $30 \ge 55$ -gallon Drums*
 - Cooking oil, food grease, used oil, hydraulic fluid
- Over 110 Hydraulic Elevators
- Over 155 Transformers

*Current inventory fluctuates due to construction and need







Secondary Containment

- All areas and equipment with the potential for a discharge are subject to general secondary containment provision, 112.7(c).
 - Oil-filled operational equipment
 - Loading/unloading areas
 - Piping
 - Mobile refuelers/ non-transportation related tank trucks
- Purpose is to contain or divert to prevent discharge: dikes, berms, retaining walls, curbing, drip pans, sumps, culverting, gutters, weirs, booms, spill diversion ponds, retention ponds, sorbent



Secondary Containment

Active secondary containment is when an employee personally contains a spill,

- Deploying drain covers before a spill happens.
- Deploying drain covers after a spill has occurred, but before the spill reaches a drain
- Using a spill kit in the event of an oil discharge
- Closing a gate valve prior to a discharge

Passive secondary containment does not require deployment or the action of an employee or employees to contain a spill.

- Placing containment pallets or decks under drums and other containers
- Surrounding machines and containers with berms
- Erecting retaining walls around machines and containers
- Placing drip trays under leaky machines and containers









Specific (Sized) Provision

- To address the potential of oil discharges from areas of a facility where oil is stored or handled, containment specified by SPCC rule CFR 40 112.8, requirements are intended to address a major container failure
 - Bulk storage containers, loading/unloading rack, mobile/portable containers, production tank batteries, treatment, separation installations
- Minimum containment capacity
 - Largest single compartment
 - Sufficient freeboard



Portable Containers



- Drums placed on spill pallets
- Emergency generators; utilize drip pans
 - Fuel trucks parked within bermed area



Oil – Filled Operational Equipment

- Equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device.
 - Does not include oil-filled manufacturing equipment (flow-through process)
- Piping is considered a component if it is solely used to facilitate operation of the equipment device.



Loading/Unloading Area Containment



- Dikes, berms, or retaining walls sufficiently impervious to contain oil;
- Curbing or drip pans;
- Sumps and collection systems;
- Culverting, gutters, or other drainage systems;
- Weirs, booms, or other barriers;
- Spill diversion ponds;
- Retention ponds; or
- Sorbent materials.



Inspection & Testing 112.8(c)(6)

- Prevent discharge of oil caused by leaks, corrosion, brittle fracture, overfill, other forms of container/equipment failure
- AST are tested or inspected in accordance with industry standards
 - Integrity tests include: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of nondestructive testing.



Common visual inspection problems:





Visual Inspection:





Remember!

- All actions (visual inspection or testing) must be documented & maintained
 - Some standards require records to be maintained for over 3 years for comparison reasons
- Know objective: the tank IS or IS NOT suitable for continued use



Oil-Water Separators

Oil/water separators (OWS) are structural devices intended to allow oils (and substances lighter than water) to be intercepted and be removed for disposal.

Substances heavier than water settle into sludge at the bottom of the unit. The remaining water passes through the unit into the sanitary sewer system.



OWS Maintenance Requirements

- Two are located at the Shuttle Bus Facility
 - Adjacent to the 20,000-gallon fueling area
 - Outside the maintenance shop
- Do not drain petroleum, oil, or lubricants directly to an OWS. The structures are designed to manage these materials at low and medium concentrations in sanitary sewage, not as slug loads.
- Do not drain antifreeze, degreasers, detergents, fuels, alcohols, solvents, coolant, or paint to the OWS.
- Separator compartment covers should be tightly sealed to ensure drainage only enters the first compartment of the OWS.
- Drains should be kept free of debris and sediment to the maximum extent practicable.
- Spill cleanup materials should be maintained in the area served by the OWS.



Example of OWS Inspection Sheet

Inspection of Fuel Oil Dike Oil/ Water Separator Building 001

Instructions: This record will be completed every <u>Monday</u> after checking leak detector/ pumps and tanks. Place an X in the appropriate box for each item. If any response is required do so in the description and comment space provided.

Item	Yes	No	Description/Comments
Separation Plates installed correctly			
All piping leading to the Separator is in good condition and no leaks are present	Ø		
Oil is less than 12" from top			
Oily sheen is present on the outlet of the separator?			
Remarks:			

- Inspection done
 regularly
- Measured oil level
 - Inspects outlet to see if there is an oil sheen

Date: 1/11/18



Oil Containment: Examples

- A lightweight non-biodegradable absorbent made from 100% Canadian Sphagnum Peat Moss
- Absorbed oil passes the Toxicity Characteristic Leaching Procedure (TCLP)
- Affinity for hydrocarbons of all types
- Suppresses 90% of gasoline vapors which eliminates the danger of explosion









Thank you

Thank you for completing the SPCC Training for Facilities Management and DOTS. Please <u>click here</u> to visit the final page and conclude the training.





SPCC Rules Specific to Dining Services



The Law-Vegetable Oils and Animal Fats

Animal fats and vegetable oils are regulated under 40 CFR 112, which has identical requirements for petroleum and non-petroleum oils. Petroleum oils, vegetable oils, and animal fats share common physical properties and produce similar environmental effects.

Like petroleum oils, vegetable oils and animal fats and their constituents can:

- Cause devastating physical effects, such as coating animals and plants with oil and suffocating them by oxygen depletion;
- Be toxic and form toxic products;
- Destroy future and existing food supplies, breeding animals, and habitats;
- Produce rancid odors;
- Foul shorelines, clog water treatment plants, and catch fire when ignition sources are present; and
- Form products that linger in the environment for many years.



Proper Disposal of Fats, Oils, and Grease (FOG)

- **Never** put any amount of grease or oil down the drain or into unlined trash containers.
 - When grease in liquid or solid form goes down the drain, it accumulates and sticks to pipes and causes blockages that result in raw sewage back-ups.
 - FOGs leaking from an unlined trash container can leak into stormwater drains and cause an SPCC and SWPPP violations.
- Always dispose of in the correct manner.
 - 55-gallon drums
 - Grease interceptor
- Failure to do so can result in hefty fines and regulatory repercussions.



Inspections

Drum Contents: Used Cooking Oil Location/Bldg. No.:	No. of 55+gal d Containment:	Date/Time: Inspector:				
Ellicott Dining Hall / 257	Map No.: 14			Yes	No	N/A
Drum surfaces show signs or leakage or spillage						
Drum is damaged, rusted or deteriorated						
Drum is not located on spill pallet or in contain	ment					
Pumps, hoses, or valves are leaking						
Drum signage is missing, illegible or inaccurate						
Spill response kit inventory is incomplete						
Containment signage missing/damage						
Describe noted problems:						

Why?

Prevent discharge of oil caused by leaks, corrosion, brittle fracture, overfill, other forms of container/equipment failure

How?

Visual inspection completed monthly.

What are you looking for?

- Good housekeeping
- Proper storage
 - Proper clean up efforts when spills occur



Examples of Failing Inspections



Spillage and absorbent around tank, no signage.



Containment not closed, spillage, no spill kit, no signage.



Containments are stained and have grease on the exterior, they are located in close proximity to the grassy areas, no spill kits.



FOG and Stormwater

WSSC... "Sanitary sewers are designed and installed with sufficient diameter to carry the normal waste discharges from a residence or business. When cooking by-products -- fats, oils, and/or grease -are discharged to the sewer, the FOG can cool and accumulate on the interior of the sewer pipes. Over time, this accumulation of FOGs restricts the flow and causes blockages in the sewer which can result in overflowing manholes or basement backups. Sanitary Sewer Overflows (SSOs) can discharge to storm drains and creeks, which will ultimately flow to the Chesapeake Bay."



WSSC Inspections and Enforcement

Inspections

 All Food Service Establishments (FSE) are subject to annual routine inspections. In addition, FSE's may be inspected at any time in response to complaints or reports of sewer blockages. During an inspection, WSSC FOG Investigators will verify that all required fixtures are connected to a grease treatment device and that the grease treatment device is adequately sized and installed according to the WSSC Code. Investigators may also review maintenance records or other documents related to the operation of the grease treatment device.

Enforcement

 Failure to comply with any condition of an FSE permit will subject the permittee to penalties and other enforcement action as provided for in WSSC's Food Service Establishment Enforcement Response Plan (ERP). These enforcement actions may include Notices of Violation, Compliance Directives, Civil Citations (fines up to \$1,000), or termination of water and sewer service.



BMPs for FOG

Best Management Practices (BMP's)

- (1) Do not pour, scrape, or otherwise dispose of fats, oils, and grease into sinks or drains.
- (2) Scrape pots and pans prior to washing them.
- (3) Collect fryer oil and store in barrels for recycling.
- (4) Dump mop water only to drains connected to your grease abatement system.
- (5) Use absorbents to soak up spills containing fats, oils, and grease.
- (6) Do not put food (including liquid food) including milk shake syrups, batters, and gravy down the drain.
- (7) Use strainers on sinks and floor drains to prevent solid material from entering the sewer.
- (8) Post "NO GREASE" signs near sinks and drains.
- (9) Empty the collection pan on automatic grease recovery devices <u>before</u> it becomes full.
- (10) Provide employees with the proper equipment for cleaning your grease trap or grease recovery device.
- (11) Direct wastewater generated from duct/range filter cleaning through the grease abatement system.
- (12) Train all kitchen staff in best management practices for grease disposal and the impacts of grease accumulation in the sewer.
- (13) Provide regular refresher training/discussion for proper disposal of fats, oils, and grease for all employees.
- (14) Inspect grease abatement devices/interceptors after pumping to ensure adequate cleaning.





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SPCC Rules Specific to UMD Research Farms



Water Resources Reform and Development Act (WRRDA)

Became effective June 10, 2014.

Section 1049 of the Act changes certain applicability provisions of the SPCC rule for **farms**, and modifies the criteria under which a farmer may self-certify an SPCC Plan. Under WRRDA:

- A farm is not required to have an SPCC Plan if it has:
 - An aggregate aboveground storage capacity less than 2,500 gallons OR
 - An aggregate aboveground storage capacity greater than 2,500 gallons and less than 6,000* gallons; and
 - No reportable discharge history.
- A farmer can self-certify the SPCC Plan if the farm has:
 - An aggregate aboveground storage capacity greater than 6,000* gallons but less than 20,000 gallons;
 - No individual tank with a capacity greater than 10,000 gallons; and
 - No reportable discharge history.

*This 6,000-gallon threshold may be adjusted by EPA, following a study to determine the appropriate exemption.



Definition of a Farm



The definition of a farm was promulgated in the December 2006 rule amendments because, at the time, EPA delayed the compliance date for farms until additional amendments to the rule were promulgated.

Additional amendments were promulgated in 2008 and farms now have the same compliance dates as other facilities.

Farm - A facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, \$1,000 or more of agricultural products during a year.



Examples of Oil on a Farm

- Gasoline
- Off-road and on-road diesel fuel
- Hydraulic oil
- Lubrication oil
- Crop oil
- Vegetable oils from crops
 Adjuvant oil
 Milk*



Milk and Milk product containers are now exempt from the SPCC capacity calculations and rule requirements



Pesticide Application Equipment

Exempt equipment includes:

Ground boom applicators

Airblast sprayers

Specialty aircraft that apply measured amounts of pesticides to crops and/or soil

Related mix containers

•Exemption applies to all pesticide application equipment and related mix containers, regardless of ownership or where used







Motive Power Containers Exemption

•Defined as any onboard storage containers used primarily to power the movement of a motor vehicle

 Includes self-propelled agricultural, construction, and excavation vehicles; and self-propelled cranes

•Oil transfer activities occurring within an SPCC-regulated facility continue to be regulated







Milk and Milk Product Container Exemption

All milk and milk product containers, associated piping and appurtenances are exempt from the SPCC rule

- Excluded from facility oil storage capacity calculation when determining SPCC applicability
- Exemption also includes all milk handling and transfer activities
- Milk product examples include cheese, yogurt and ice cream

Does not impact the potential liability of milk spills



Immediately report milk and other oil spills to navigable waters or adjoining shorelines to the National Response Center (NRC) at 800-424-8802 or 202-426-2675





Thank you

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Certificate of Completion

THIS IS TO CERTIFY THE SUCCESSFUL COMPLETION OF THE SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) ANNUAL TRAINING



DEPARTMENT OF ENVIRONMENTAL SAFETY, SUSTAINABILITY & RISK

Date:









UNIVERSITY OF MARYLAND

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