



Clear Waters Ahead: SPCC & SWPPP Compliance Insights and FAQs Unveiled

Stephanie Miller, Senior Consultant
Trinity Consultants

Anita Evenson, Manager of Environmental Engineering
Anchor Glass Container Corporation

March 20, 2024



trinityconsultants.com

Stephanie Miller – Senior Consultant

- ▶ Joined Trinity June 2014 – Columbus, OH Office
- ▶ Water permitting and compliance
 - SPCC, SWPPP, general permits, individual NPDES, indirect discharge
- ▶ Part-time “air-head”
- ▶ MS Environmental Science, University of Cincinnati
 - Graduate research at U.S. EPA National Risk Management Research Laboratory
- ▶ BS Biology, Kent State University



Anita Evenson – Manager of Environmental Engineering

- ▶ Joined Anchor April 2022
- ▶ Managing 6 sites across the US
- ▶ Prior consulting experience providing multi-media support to a wide range of industries and clients in several states
- ▶ BS – Chemical Engineering, Rose-Hulman Institute of Technology



Oil Pollution Prevention – 40 CFR 112

Spill Prevention, Control and Countermeasure Plan (SPCC)

SPCC – Regulatory Background

- ▶ **Purpose** - 40 CFR Part 112 requires a Spill Prevention, Control, and Countermeasure (SPCC) Plan for certain facilities to prevent a discharge of oil into navigable waters or adjoining shorelines.
- ▶ **Federal Applicability** - Any facility with aggregate aboveground oil storage capacity **greater than 1,320 U.S. gallons**, OR completely buried storage capacity greater than 42,000 U.S. gallons, AND there is a reasonable expectation of an oil discharge into or upon navigable waters of the U.S. or adjoining shorelines.

SPCC “Reasonable Expectation” of Discharge

- ▶ Geography – Proximity of facility to nearby navigable waters
 - ▶ Transport of “oil” offsite –
 - Ditches, creeks, streams
 - Sewers (onsite and offsite)
 - Precipitation runoff
 - Groundwater
-





If it causes a film or sheen in water, consider it an oil

What types of “oil” are covered?

- ▶ Petroleum
- ▶ Fuel oil (diesel, biodiesel)
- ▶ Sludge
- ▶ Oil refuse (waste oil, oily water)
- ▶ Oil mixed with wastes other than dredged spoil
- ▶ Fats, oils or greases of animal, fish, or marine mammal origin
- ▶ Vegetable oils, including oil from seeds, nuts, fruits, or kernels
- ▶ Other oils and greases, including synthetic oils and mineral oils.
- ▶ US Coast Guard Oil List

Calculating Oil Storage Inventory

Add up the shell capacities of each container (max volume)

Do not use the actual amount of product in container (working volume)

Count only containers/equipment with capacity ≥ 55 gallons

Include drums, totes, tanks, oil-filled equipment (transformers, gear boxes, lubrication systems, etc.)

Oil Inventory – Common Exemptions



Motive Power Containers

- ▶ Used to power the movement of a motor vehicle
- ▶ Oil transfer activities still regulated



Wastewater Treatment

- ▶ Likely to be regulated by NPDES
- ▶ Exemption does not apply to equipment used as secondary containment



Permanently Closed Containers

- ▶ Must meet definition in 40 CFR 112.2



Coolant

- ▶ If soluble in water



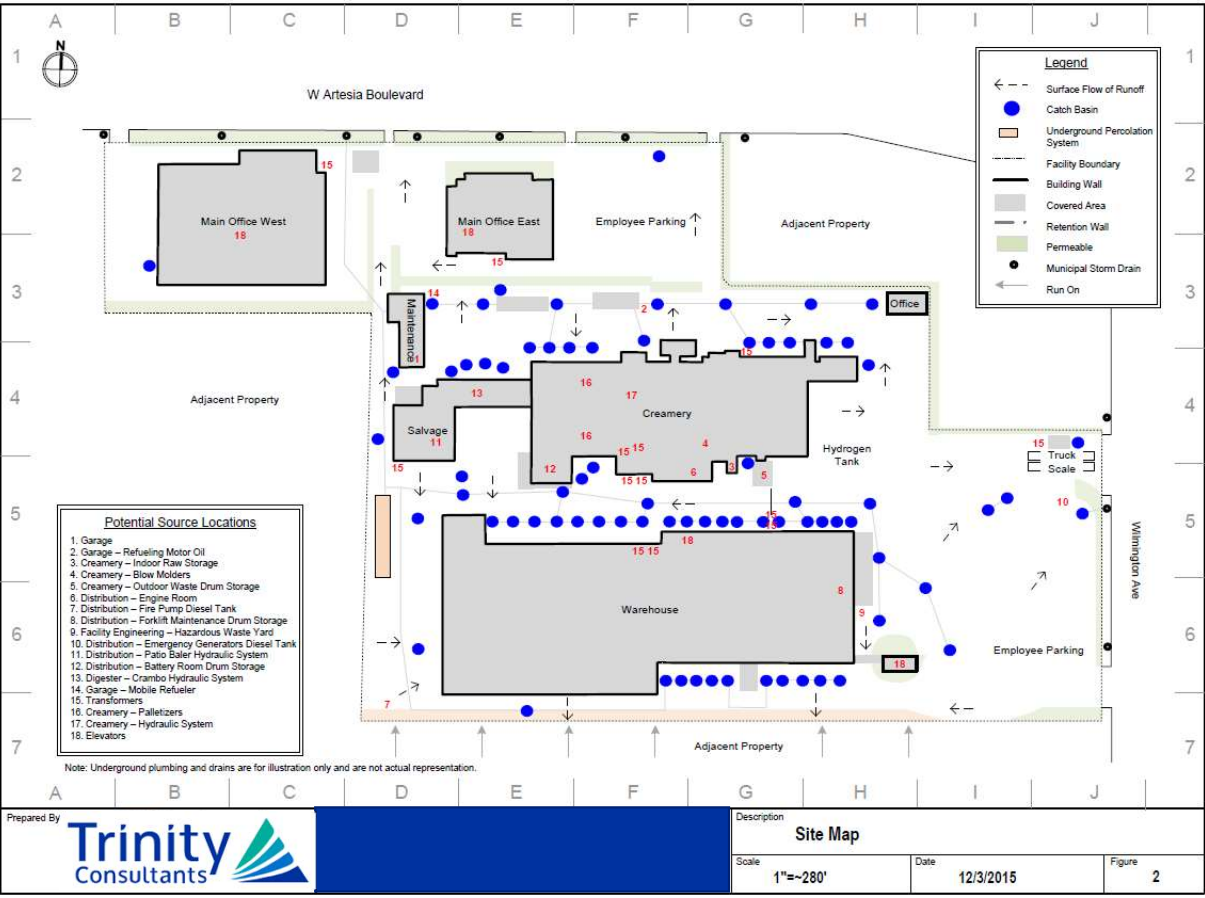
Hot-mix Asphalt

- ▶ Low potential to reach navigable waters since low flow

SPCC Plan – Key Elements

- ▶ Facility diagram or site map
- ▶ Oil sources, storage volumes and discharge predictions
- ▶ **Secondary containment or diversionary structures**
- ▶ Facility drainage
- ▶ Site security
- ▶ Requirements for bulk storage containers including **inspections, overfill, and integrity testing requirements**
- ▶ Transfer procedures and equipment (including piping)
- ▶ **Requirements for qualified oil-filled operational equipment**
- ▶ Loading/unloading rack requirements
- ▶ Personnel training and oil discharge prevention briefings
- ▶ Management approval (and certification in some cases)
- ▶ Plan certification by a Professional Engineer (PE) (for facilities > 10,000 gallons of oil storage)

SPCC Plan – Site Map Example



SPCC Secondary Containment Requirement

- ▶ Secondary containment requirements are separated into two categories: **general** and **sized**
- ▶ “General” secondary containment must be designed to prevent an offsite discharge of oil – 40 CFR 112.7(c)
 - Applies to all SPCC-regulated containers and oil-handling areas (e.g., oil inventory list), except qualified OFOE
- ▶ “Sized” secondary containment must be designed to hold the **entire capacity of the largest single container and sufficient freeboard** to contain precipitation – 40 CFR 112.7(h)(1), 112.8(c)(2), 112.8/12(c)(11)
 - Applies only to loading/unloading racks, bulk storage containers, and mobile/portable containers

GENERAL Secondary Containment

- ▶ Required for ALL activities and containers subject to SPCC, including:
 - Bulk storage tanks
 - Portable/mobile containers
 - Oil-filled operational equipment
 - Oil transfer areas
 - Loading racks
 - Piping
- ▶ Determine the best method using engineering judgement to contain the **most likely discharge of oil** until cleanup occurs
- ▶ When sized secondary containment is required, the sized secondary containment fulfills the general secondary containment requirements (ex: storage tanks, loading racks, etc.)



SIZED Secondary Containment (1/2)

- ▶ Required for:
 - Bulk storage tanks
 - Portable and mobile containers
 - Loading racks
- ▶ Requirements for **Loading/Unloading Racks** [§112.7(h)]
 - Where drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system (device that drains oil away from area to some means of secondary containment)
 - Must be designed to hold the **max capacity of any single compartment** of a tank car or tank truck loaded or unloaded at the facility

SIZED Secondary Containment (2/2)

- ▶ Requirements for **Bulk Storage** [§112.8(c)(2)] Containers:
 - Must be designed to hold the **entire capacity of the largest single container plus sufficient freeboard for precipitation**
 - Sufficient freeboard – Not defined in the rule
 - ◆ 110% of largest tank
 - ◆ 25-year, 24-hour precipitation event
 - Good engineering practice (PE certifying SPCC) makes determination
 - Important factors include
 - ◆ NOAA data
 - ◆ Height of dike wall
 - ◆ Volume of container
 - ◆ Footprint of containment area
 - ◆ Frequency of dike drainage/inspection



Loading Rack vs Transfer Area

- ▶ 40 CFR 112.2: **Loading/unloading rack** means a fixed structure (such as a platform, gangway) necessary for loading or unloading a tank truck or tank car, which is located at a facility subject to the requirements of this part. A loading/unloading rack includes a loading or unloading arm, and may include any combination of the following: piping assemblages, valves, pumps, shut-off devices, overfill sensors, or personnel safety devices.
 - Subject to sized secondary containment requirements
- ▶ A **transfer area** is any area of a facility where oil is transferred between bulk storage containers and tank trucks or railroad cars.
 - Subject to general secondary containment requirements



<https://www.safe-harbor.com/loading-racks.html>

Secondary Containment Methods

- ▶ Passive measures = fixed, permanent containment structure which requires no action



- ▶ Active measures = requires deployment or action to be taken



Common Secondary Containment Questions

▶ Wastewater treatment systems and oil/water separators

- Must be adequately sized and have means to shutoff discharged
- Not SPCC-regulated unless used as secondary containment

▶ Buildings

- Must be “sufficiently impervious”
- Check for floor drains
- **Distance from doorways** – variable, but min of 50 ft rule of thumb for a 55 gal drum
 - ◆ Spill models can be done for specific scenarios
 - ◆ Recently questioned by US EPA Region 5!

Common Secondary Containment Questions

▶ **Double-walled tanks**

- Must be shop-fabricated
- Have means to monitor interstitial space (sight gauge or sensor)
- Must have overflow prevention measures
 - ◆ Overflow alarm or flow shut-off OR
 - ◆ Adequate general secondary containment for most likely quantity from tank vents

Container Requirements

- ▶ Engineer or update each container with one of these devices
- ▶ Regularly test liquid level sensing devices

High liquid level alarm

- Audible or visual signal

High liquid level cutoff device

- Set to stop flow at a predetermined container content level

Direct audible or code signal communication

- Between container gauger and pumping station

Fast liquid level response system

- Digital computers, telepulse, or direct vision gauges
- A person must be present to monitor gauges and filling

Container Inspection Requirements



Frequently inspect of the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas

Accumulated liquid in diked areas must always be inspected before discharge, and records kept of each discharge



This visual inspection is intended to be a routine walkaround and includes the container's supports and foundations



Scope and frequency can be based on industry standards or program developed by PE

Container Integrity Testing Requirements

- ▶ Required for each AST
- ▶ Test or inspect container and valves/piping for integrity on a regular schedule
 - Facility and PE must determine appropriate methods, frequency, and qualifications for personnel
 - Recent experience – U.S. EPA expects a specific reference to standard methods within the SPCC plan text
- ▶ Examples: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing
 - STI SP001
 - API 653
- ▶ Brittle fracture evaluation for field-constructed tanks



SPCC Training of Personnel

- ▶ Train oil-handling personnel on spill prevention equipment, discharge procedure protocols, pollution control law, and contents of plan
- ▶ Conduct annual discharge prevention briefings
 - Highlight and describe any known discharges and recently developed prevention measures

When does my SPCC plan need to be updated?

Technical Amendment

- Change in the facility design, construction, operation, or maintenance that affects potential for a discharge
- PE certified (if not tier qualified facility)
- Amend plan within 6 months of change
- Implement ASAP but not later than six months following preparation of the amendment

Administrative Amendment

- Any change that does not affect facility's potential for discharge
- Ex: Contact information, personnel changes
- No PE certification required

What is the 5-year review requirement?

- ▶ NOT a catch-up for missed technical amendments
- ▶ NOT an expiration of the P.E. certification
- ▶ The five-year review is to determine if **more effective prevention and control technology** has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge.
 - If YES, amend the plan within six months of review
 - If NO, no change required, no P.E. cert required
- ▶ DOCUMENT the review and results in a review log with the plan

US EPA Guidance for Regional Inspectors

- ▶ Detailed applicability information
- ▶ Example SPCC plans
- ▶ Example forms



SPCC Guidance for Regional Inspectors

Office of
Emergency
Management

December 16, 2013





National Pollutant Discharge Elimination System

Industrial Stormwater Programs

Industrial Stormwater Permit – 3 Types of Regulatory Coverage

General Permit

Facilities with categories of industrial activity which are subject to NPDES permitting (40 CFR 122.26)

Individual Permit

Facilities with individual NPDES permit for other discharges OR subject to national effluent guideline for stormwater discharges

No Exposure Certification (NEC)

Exempted facilities which are subject to NPDES permitting, however, there is “no exposure” to industrial activity

State General Stormwater Permit Overview

- ▶ Ohio
 - Renewed 6/1/2022
 - Expires 5/31/2027
- ▶ Kentucky
 - Renewal posted 8/7/2023
 - eNOI due 12/31/2023
- ▶ Indiana
 - 327 IAC 15-6
 - 5 year permit term – submit NOI 90 days prior to expiration



Permitted Facilities - Key Permit Requirements

- ▶ Stormwater Pollution Prevention Plan (SWPPP)
 - **Current facility contacts**
 - Site map and general location map
 - Discharge/sampling locations (Outfalls)
 - Pollutant source assessment
- ▶ Control measures and best management practices
- ▶ Stormwater monitoring schedule
 - Visual assessment
 - Benchmark/permit limit
- ▶ Routine facility inspections blank and completed forms
- ▶ Corrective action tracker



SWPPP Summary of Potential Pollution Sources

- ▶ Describe areas at your facility where industrial materials or activities are exposed to stormwater
- ▶ For each area identified –
 - List of industrial activities exposed to stormwater
 - Pollutants that could be exposed to precipitation and discharges
 - Where potential spills and leaks could occur
 - Unauthorized non-stormwater discharges evaluation
 - Sampling data to be collected



Control Measures and Best Management Practices (BMPs)

- ▶ Exposure minimization
 - Structural controls
 - Location of pollutant sources
 - Storm-resistant coverings
- ▶ Good housekeeping
- ▶ Preventative maintenance
- ▶ Spill & leak plans
- ▶ Material handling & waste management
- ▶ Erosion & sediment controls
- ▶ Management of run-off/run-on
- ▶ Dust generation/vehicle tracking of industrial materials
- ▶ Recordkeeping/documentation
- ▶ Stormwater containment & discharge reduction
- ▶ Treatment control
- ▶ Construction projects > 1 acre

Industrial Facilities Control Measures



SWPPP Procedures – Inspections and Assessments

- ▶ Monthly visual facility inspections by trained staff
- ▶ Periodic inspections of outfalls, some states require analytics
- ▶ **Document** any items found on inspections are corrected promptly



Monitoring Requirements

- ▶ Types of monitoring (varies by state and SIC)
 - Visual inspections
 - Benchmark monitoring
 - Effluent limit monitoring
- ▶ Frequency may be quarterly, monthly, semiannually
- ▶ Discharge Monitoring Reports (DMRs)
 - KY GP – Submit by 7/28 and 1/28 each year
 - OH GP – Benchmark and Effluent Limit monitoring submitted monthly; Visual inspections not required to be submitted
 - IN GP – SWP3 checklist report due 1st year, annual sampling and report submittal all years



Guarantee Compliance? Your Facility Requirements!

- ▶ Read your SWPPP and your permit!
- ▶ Make the sure the exposed significant material list is consistent between site map, inspection list, and plan
- ▶ Inspect outfalls for signs of spills or contamination – document any corrective actions
- ▶ BMPs being properly maintained?
- ▶ Where are compliance documents?



SWPPP and SPCC Plan Sustainability

- ▶ Plan is easy to maintain and keep updated
 - Use tables to summarize oil inventories and exposed significant materials
 - Required inspections, testing, monitoring, etc. are clearly identified
- ▶ Easily transferrable to new EHS personnel
- ▶ Plan does not require constant revisions
 - Not too specific, but specific enough to meet the regulatory requirements
 - Avoid generic language that can be misinterpreted
 - ◆ Wrong: “Site personnel regularly receive SWPPP training.”
 - ◆ Better: “All oil-handling personnel receive annual SWPPP training.”

Questions?



Biographical Information

**Anita Evenson. Manager of Environmental Engineering
Anchor Glass Container Corporation
3001 N Rocky Point Drive E, Suite 300, Tampa, FL 33607
Anita.Evenson@AnchorGlass.com**

Anita has worked as a regulator (short stint at US EPA in Cincinnati after college), consultant, and now in industry. She is currently the manager of environmental engineering for Anchor Glass Container Corporation. She is managing the environmental compliance programs for the six Anchor facilities located in six different states. While Lawrenceburg, Indiana is her “home” plant, Anita does frequently travel to the other five glass container manufacturing plants while working remotely when not traveling. Prior to accepting a position in industry, she was an environmental engineering consultant with more than 15 years multi-media permitting and compliance expertise. This included project management and technical experience in permitting, emission inventories, regulatory compliance support, multi-media environmental assessments, and complex permitting compliance efforts surrounding several NSPS and NESHAPs, Title V renewals, synthetic minor permits (including NSR and PSD analysis), and other engineering projects. Routinely assisted clients in compliance with complex environmental regulations. Developed air emission inventories for plastics, resins, coating, steel mills, automotive, food and flavoring clients that involved site evaluations, process analysis, extensive records review, and detailed calculations of potential and actual emissions. Anita is a graduate of Rose-Hulman Institute of Technology with a B.S. in Chemical Engineering.

**Stephanie A. Miller, Senior Consultant
Trinity Consultants, 440 Polaris Pkwy. Ste. 275, Westerville, OH 43082-8026
614-433-0733
SMiller@trinityconsultants.com**

Stephanie Miller is a senior environmental consultant with Trinity Consultants' Columbus, Ohio office. She began her career with Trinity in Pittsburgh in 2014, where she served a number industry sectors throughout Pennsylvania, West Virginia, and Ohio. Stephanie's experience includes air permitting and compliance, air dispersion modeling, Environmental Management Information Systems (EMIS), Spill Prevention Control and Countermeasure (SPCC), Toxic Release Inventory (TRI), and a number of other environmental specialties. Her work encompasses a wide variety of industries, including oil & gas, metal manufacturing, chemical manufacturing, among other manufacturing industries. Stephanie earned a Master of Science degree in Environmental Science from the University of Cincinnati, where she conducted research on drinking water treatment at the U.S. EPA. She earned a Bachelor of Science degree in Biology from Kent State University.