Section 4

SPCC Plan Basics

(as applicable to APSA tank facilities)

SPCC Regulations & Plans

- APSA requires tank facilities to prepare and implement an SPCC plan in accordance with the latest federal SPCC rules (40 CFR 112)
- If APSA tank facilities have both APSA included and APSA excluded US EPA SPCC regulated equipment/tanks (e.g. transformers, vegetable oil tanks, etc.)
  - Prepare one SPCC Plan including everything… SBCFD Hazardous Materials Division will only inspect the APSA-included tanks and containers
- Reminder: APSA plan exempt facilities and tanks may still be regulated by US EPA
  - Construction sites, transformers, non-petroleum oils, crude oil production tanks, etc.

SPCC Regulations & Plans

- SPCC rules require facilities to prepare and implement a site-specific SPCC Plan to address three areas:

1. *Secondary containment and other engineered and procedural control measures*
2. *Operating procedures, inspections and other administrative measures*
3. *Countermeasures and clean up measures*

40 CFR 112 Rule Organization & Facility Types

(only 40 CFR 112.1 through 112.8 applies to APSA Tank Facilities)

Rule Section	*Topics*
Subpart A *40 CFR 112.1 - 112.7*	Applicability, definitions, and general requirements for all facilities and all types of oil
Subpart B *40 CFR 112.8* 40 CFR 112.9- .11	Requirements for petroleum oils at on-shore non-oil production facilities, on- and off-shore oil production, drilling, etc. facilities and non-petroleum oils, except those covered in Subpart C
Subpart C 40 CFR 112.12	Requirements for animal fats and oils and greases, and fish and marine mammal oils; and vegetable oils, including oils from seeds, nuts, fruits, and kernels
Subpart D 40 CFR 112.20	Response requirements (FRP rule)

40 CFR 112 Structure

§112.1 General applicability of the rule

§112.2 Definitions of terms used in the rule

§112.3 Requirement to prepare an SPCC Plan

§112.4 Amendment of SPCC Plan by EPA Regional Admin.

§112.5 Amendment of SPCC Plan by owner/operator

§112.6 Qualified Facilities

§112.7 General SPCC requirements for all facilities

§112.8 SPCC requirements for on-shore non-oil production facilities

§§ 112.9 - .12 Additional specific requirements for different types of facilities and different types of oils

§112.20 Facility Response Plans

§112.21 Facility Response training and drills/exercises

40 CFR 112 Structure - Appendices

- Appendix A
  - **Memorandum of Understanding between DOT & EPA**
- Appendix B
  - **Memorandum of Understanding between DOT, DOI & EPA**
- Appendix C
  - **Substantial harm criteria (for the 112.20(e) certification)**
- Appendix D
  - **Determination of a worst case discharge planning volume**
- Appendix E
  - **Determination and evaluation of required response resources for facility response plans**
- Appendix F
  - **Facility-specific response plan**
- Appendix G
  - **SPCC Plan Template for Tier I Qualified Facilities**

Not Just Section 4 SPCC Plan Basics

- THIS section covers basic SPCC Plan requirements
- Other SPCC Plan and rule requirements include:
  - **Secondary Containment and 'Impracticability' (5)**
  - **Inspection, Evaluation and Testing (6)**
  - **Training and Procedures (7)**
  - **Spill Planning, Notification & Response (8)**

Three SPCC Facility 'Types'

Tier I & Tier II Qualified Facilities and All Others

- Based on:
  - Discharge history
  - Total facility capacity
  - Capacity of largest tank/container
- Impact:
  - Ability for Tier I qualified facilities to use a simple SPCC Plan Template in writing the Plan *(12/08 amendments)*
  - Facility self-certification of Plan vs. registered P.E. certification
  - Ability to conditionally 'vary' from certain specific rule requirements

Qualified Facilities

- Comply with 40 CFR 112.1 - .5; 112.6 and selected portions of 112.7 and .8
- Two Tiers… Criteria applicable to both tiers:
  - **Facility must have 10,000 gallons or less in aggregate aboveground oil storage capacity (oil of *ANY* type)**
  - **For the 3 years prior to Plan certification, or since becoming subject to the rule if it has operated for less than 3 years, the facility must not have had:**
    - **A single discharge of oil to navigable waters or adjoining shorelines exceeding 1,000 U.S. gallons, or**
    - **Two discharges of oil to navigable waters or adjoining shorelines each exceeding 42 U.S. gallons within any 12-month period**

Tier I Qualified Facilities

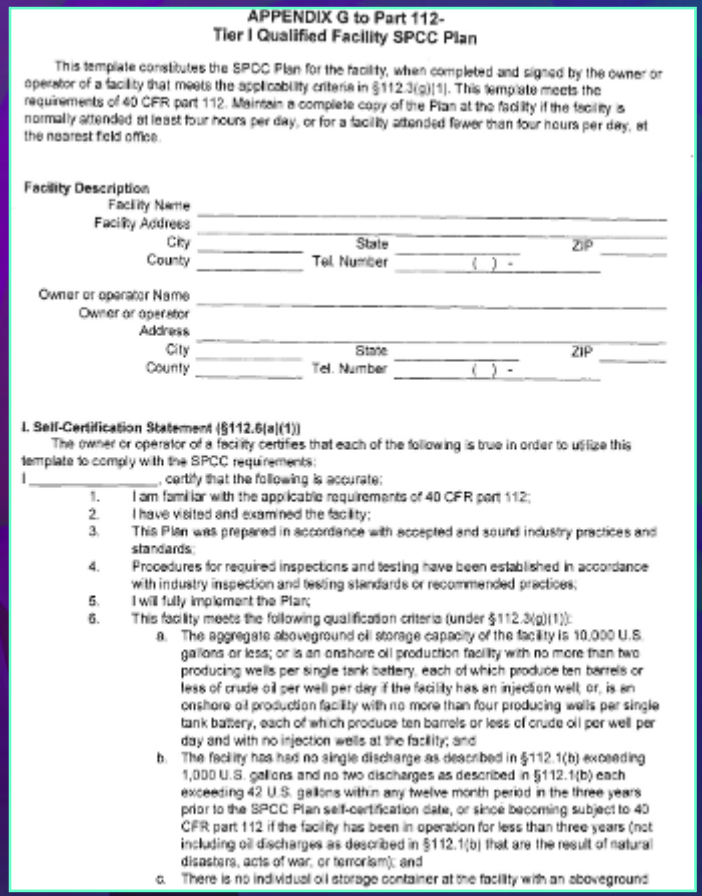
- Meet the qualified facility criteria, and
- Single largest oil container or tank < 5,000 gallons capacity
  - **Oil of *ANY* type**
- If a Tier I qualified facility
  - **Can use the new SPCC Plan Template (Appx G) to complete the SPCC Plan**
  - **Management self-certification**
  - **No PE review or certification**
  - **Will lose eligibility if facility increases single individual container capacity > 5,000 gallons**

Tier II Qualified Facilities

- Qualified facilities not meeting Tier I criteria
- If a Tier II qualified facility
  - **Prepare a full SPCC Plan (not the template)**
    - **Some flexibility for certain provisions (see 112.6(b))**
    - **Restricted flexibility for others (unless a PE reviews and certifies)**
  - **Management self-certification**
  - **No PE review or certification (unless Plan varies from requirements)**
  - **Will lose eligibility if facility increases aggregate oil capacity > 10,000 gallons**

Qualified facilities*		All other facilities
Tier I	**Tier II**	
10,000 U.S. gallons or less aggregate aboveground oil storage capacity; and		More than 10,000 U.S. gallons aggregate aboveground oil storage capacity, or
Within any twelve-month period, three years prior to the Plan certification date, or since becoming subject to the SPCC rule if in operation for less than three years, there has been: (1) No single discharge of oil to navigable waters or adjoining shorelines exceeding 1,000 U.S. gallons; and (2) No two discharges of oil to navigable waters or adjoining shorelines each exceeding 42 U.S. gallons **; and		Within any twelve-month period, three years prior to the Plan certification date, or since becoming subject to the SPCC rule if in operation for less than three years, there has been: (1) A single discharge of oil to navigable waters or adjoining shorelines exceeding 1,000 U.S. gallons; or (2) Two discharges of oil to navigable waters or adjoining shorelines each exceeding 42 U.S. gallons **; or
No individual aboveground oil containers greater than 5,000 U.S. gallons;	Has individual aboveground oil containers greater than 5,000 U.S. gallons; or Owner or operator eligible for Tier I qualified facility status, but decides not to take the option or chooses to develop a "hybrid" Plan;	Owner or operator eligible for qualified facility status, but decides not to take the option;
Then: Complete and self-certify Plan template (Appendix G to 40 CFR part 112) in lieu of a full PE-certified Plan.	Then: Prepare self-certified Plan in accordance with all applicable requirements of §112.7 and subparts B and C of the rule, in lieu of a PE-certified Plan.	Then: Prepare PE-certified Plan in accordance with all applicable requirements of §112.7 and subparts B and C.

Tier I QF SPCC Plan Template



APPENDIX G to Part 112-
Tier I Qualified Facility SPCC Plan

This template constitutes the SPCC Plan for the facility, when completed and signed by the owner or operator of a facility that meets the applicability criteria in §112.3(g)(1). This template meets the requirements of 40 CFR part 112. Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or for a facility attended fewer than four hours per day, at the nearest field office.

Facility Description

Facility Name _____
Facility Address _____
City _____ State _____ ZIP _____
County _____ Tel. Number ( ) -

Owner or operator Name _____
Owner or operator Address _____
City _____ State _____ ZIP _____
County _____ Tel. Number ( ) -

I. Self-Certification Statement (§112.6(a)(1))

The owner or operator of a facility certifies that each of the following is true in order to utilize this template to comply with the SPCC requirements:

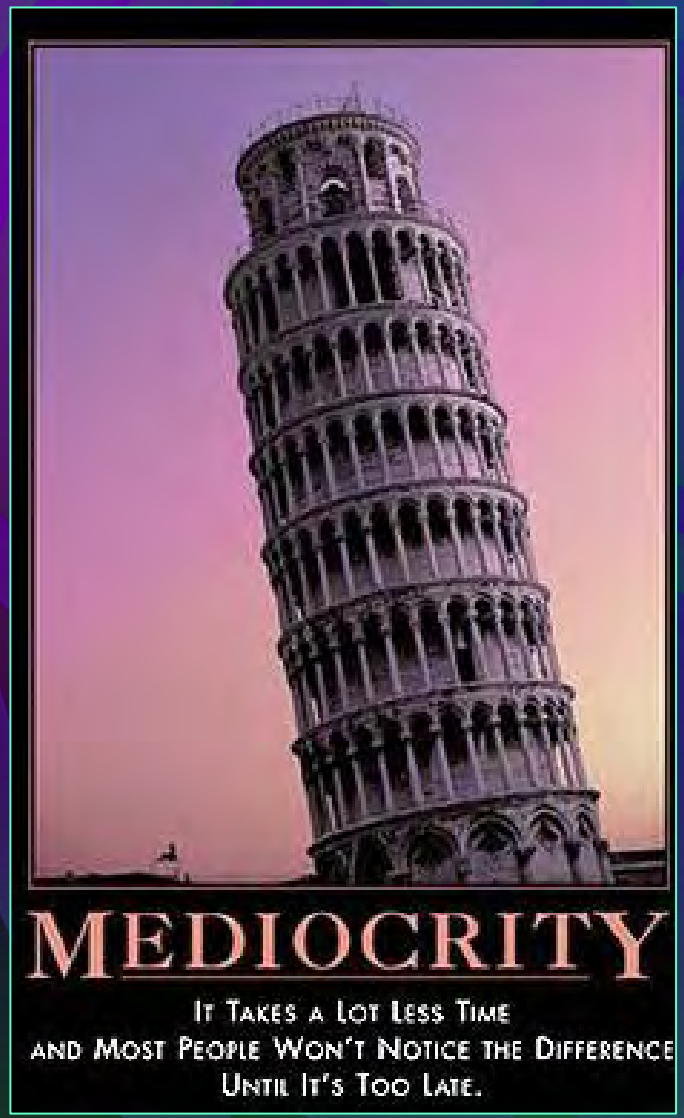
I _____, certify that the following is accurate:

1. I am familiar with the applicable requirements of 40 CFR part 112;
2. I have visited and examined the facility;
3. This Plan was prepared in accordance with accepted and sound industry practices and standards;
4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
5. I will fully implement the Plan;
6. This facility meets the following qualification criteria (under §112.3(g)(1)):
   a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; or is an onshore oil production facility with no more than two producing wells per single tank battery, each of which produce ten barrels or less of crude oil per well per day if the facility has an injection well; or, is an onshore oil production facility with no more than four producing wells per single tank battery, each of which produce ten barrels or less of crude oil per well per day and with no injection wells at the facility; and
   b. The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons and no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to 40 CFR part 112 if the facility has been in operation for less than three years (not including oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism); and
   c. There is no individual oil storage container at the facility with an aboveground

Template sections B & C not regulated under APSA (oil production & oil drilling)

- SPCC Plan template simply makes it easier for a small facility to comply with Plan preparation (and certification) requirements
- Regulated Tier I qualifies facilities must still comply with all SPCC rule requirements
  - **Inspections and integrity testing**
  - **Secondary containment**
  - **Failure/discharge analysis**
  - **Personnel training**
  - **Discharge control procedures**
  - **Spill control measures, etc.**

Tier I QF SPCC Plan Template



- Not just a generic check the box and stuff it in the drawer document
  - **Must be prepared (e.g. integrity testing and inspections) in accordance with industry standards**
  - **Must narratively describe or summarize the facility's specific means of compliance with 40 CFR 112 requirements (engineering, procedural & administrative)**
  - **Must actually implement what was described and keep relevant implementation records**
  - **Must periodically review and keep current**

Tier I Qualified Facility Plan Template

Table G-4 below identifies the tanks and containers at the facility with the potential for an oil discharge; the mode of failure; the flow direction and potential quantity of the discharge; and the secondary containment method and containment capacity that is provided.

Table G-4 Containers with Potential for an Oil Discharge

Area	Type of failure (discharge scenario)	Potential discharge volume (gallons)	Direction of flow for uncontained discharge	Secondary containment method[a]	Secondary containment capacity (gallons)
Bulk Storage Containers and Mobile/Portable Containers[b]					
Oil-filled Operational Equipment (e.g., hydraulic equipment, transformers)[c]					
Piping, Valves, etc.					
Product Transfer Areas (location where oil is loaded to or from a container, pipe or other piece of equipment.)					
Other Oil-Handling Areas or Oil-Filled Equipment (e.g. flow-through process vessels at an oil production facility)					

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

[b] For storage tanks and bulk storage containers, the secondary containment capacity must be at least the capacity of the largest container plus additional capacity to contain rainfall or other precipitation.

[c] For oil-filled operational equipment: Document in the table above if alternative measures to secondary containment (as described in §112.7(k)) are implemented at the facility.

3. Inspections, Testing, Recordkeeping and Personnel Training (§§112.7(e) and (f), 112.8(c)(6), 112.12(c)(6)):

Table G-5 Inspections, Testing, Recordkeeping and Personnel Training	
An inspection and testing program is implemented for all aboveground storage containers and piping at this facility. *[§112.8(c)(6), 112.12(c)(6)]*	☐
The following is a description of the inspection and testing program (e.g. reference to industry standard utilized, scope, frequency, method of inspection or test, and person conducting the inspection) for all aboveground storage containers and piping at this facility:	

Inspections, tests, and records are conducted in accordance with written procedures developed for the facility. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph. *[§112.7(e)]*	☐
A record of the inspections and tests are kept at the facility or with the SPCC Plan for a period of three years. *[§112.7(e)]* [See Inspection Log and Schedule in Attachment 3.1]	☐
Inspections and tests are signed by the appropriate supervisor or inspector. *[§112.7(e)]*	☐
Personnel, training, and discharge prevention procedures [§112.7(f)]	
Oil-handling personnel are trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan. *[§112.7(f)]*	☐
A person who reports to facility management is designated and accountable for discharge prevention. *[§112.7(f)]* Name/Title:	☐
Discharge prevention briefings are conducted for oil-handling personnel annually to assure adequate understanding of the SPCC Plan for that facility. Such briefings highlight and describe past reportable discharges or failures, malfunctioning components, and any recently developed precautionary measures. *[§112.7(f)]* [See Oil-handling Personnel Training and Briefing Log in Attachment 3.4]	☐

4. Security (excluding oil production facilities) §112.7(g):

Table G-6 Implementation and Description of Security Measures	
Security measures are implemented at this facility to prevent unauthorized access to oil handling, processing, and storage area. The following is a description of how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges:	☐

5. Emergency Procedures and Notifications (§112.7(a)(3)(iv) and 112.7(a)(5)):

Table G-7 Description of Emergency Procedures and Notifications	
The following is a description of the immediate actions to be taken by facility personnel in the event of a discharge to navigable waters or adjoining shorelines *[§112.7(a)(3)(iv) and 112.7(a)(5)]*:	☐

SPCC Regulations vs SPCC Plans

- SPCC compliance means complying with the detailed regulatory requirements *and* preparing/implementing the descriptive SPCC Plan
  - Specific criteria for Plan content and format
- Compliance also means the Plan is consistent with field conditions and practices

SPCC Plans & Completed Plan Templates

- Document describing the *specific* means by which the facility complies &/or will comply with SPCC regulations
  - **Plan prepared in accordance with 40 CFR 112.1 - 112.8**
  - **SPCC Plan must be kept on site & made available… No agency submission requirement**
    - At the facility if it is attended at least 4 hours per day
    - At the nearest field office if the facility is attended for less than 4 hours per day
  - Plan must be kept current and periodically reviewed

SPCC Plan Preparation Standards

- Must be prepared in accordance with good engineering practice or industry standards
  - e.g. STI SP001, API 653, etc.
- Signed/certified by:
  - **Facility management** ***(for Type I and II Qualified Facilities)***
  - **Registered Professional Engineer** ***(for non-qualified facilities, or QF not taking the QF option)***
    - **A PE does not need to <u>write</u> the thing – just review & certify**
    - **"Independent" PE not required… can be an employee**
    - ***<u>Calif.</u>* PE license & *<u>type</u>* of PE not specified by EPA and (not yet) by Calif.**

SPCC Plan Preparation Standards

- Must have management commitment for implementation
  - **Signed/certified by facility management at full Plan resource-commitment authority**
- Must address all relevant spill prevention, control, and countermeasures at the facility necessary to minimizes the potential for oil (petroleum) discharges
  - **Designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules**

Summary Rule Requirements & Plan Elements (112.1 - 112.8)

- Plan format & organization
- Plan certification, review and amendment
- Facility diagram *(12/08 amendments)*
- Spill predictions / failure analysis
- Security *(12/08 amendments)*
- Corrosion protection for buried tanks (APSA excluded)
- Overfill protection
- Facility transfer and piping systems

Summary Rule Requirements & Plan Elements (112.1 – 112.8)

- Discharge prevention measures (secondary containment and alternatives) *(12/08 amendments)*
- Oil handling procedures
- Inspection, evaluation and testing *(12/08 amendments)*
- Records
- Discharge notification
- Spill and discharge countermeasures
- Training & designated personnel

SPCC Plan Contents/Organization

- Plan contents: some reference… some procedural
  - Some Plan elements are reference or documentation of engineering compliance
  - Some elements are for agency review during inspections
  - Some elements are the site-specific descriptions of required procedures, inspections, training, site conditions, forms, actions, etc.
- No standard or required format
  - Differing formats allowed if “acceptable” to EPA and cross-reference SPCC regulatory requirements
  - But specific required content per 40 CFR 112 regs.

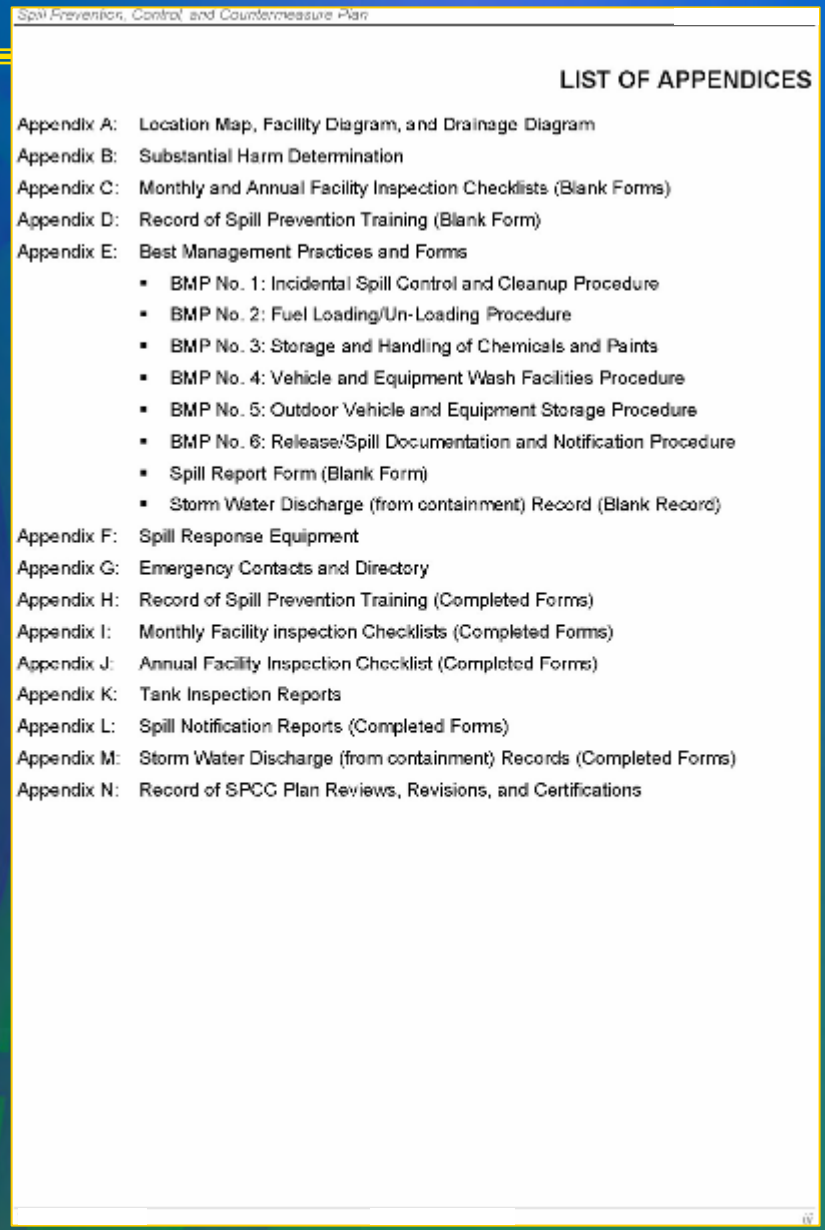
Example Plan Contents/Format (non-Template [full] Plan)

TABLE OF CONTENTS

LIST OF TABLES

Example Plan Contents/Format (non-Template [full] Plan)

- Most appendices vary by Plan
- Remember… the Tier I SPCC Plan Template incorporates all required sections



Spill Prevention, Control, and Countermeasure Plan

LIST OF APPENDICES

iv

Sample Cross-Reference (non-Template Plan)

- Required - if Plan does not follow rule sequence

Table 2-1: SPCC Rule/Plan Cross-Reference

Provision[1]	Plan Section	
112.1(a)	1.2	General Applicability and Preparation Requirement
112.3(a)	1.2	General Applicability and Preparation Requirement
112.3(d)	2.2	Professional Engineer Certification
112.3(e)	2.3	Location of SPCC Plan
112.5	2.4	Plan Review
112.7	2.1	Management Approval
112.7	2.6	Cross-Reference with SPCC Rule
112.7(a)(1)	2.7	Facility Conformance
112.7(a)(2)	1.1	Compliance with Applicable Requirements
	4.6.2	Periodic Integrity Testing
112.7(a)(3)	3.0	General Facility Information
	4.0	Discharge Prevention – General SPCC Provisions
	6.0	Discharge Response
	Appendix A	Site Plan and Facility Diagram
112.7(a)(4)	6.3	Discharge Notification
112.7(a)(5)	6.0	Discharge Response
112.7(b)	3.2	Potential Discharge Volumes and Direction of Flow
112.7(c)	4.4	Containment and Diversionary Structures
112.7(d)	4.5	Practicability of Secondary Containment

Provision[1]	Plan Section	
112.7(e)	4.6	Inspections, Tests, and Records
112.7(f)	4.7	Personnel, Training, and Discharge Prevention Procedures
112.7(g)	4.8	Security
112.7(h)	4.9	Tank Truck Loading/Unloading
112.7(i)	4.10	Field Constructed Aboveground Containers
112.7(j)	4.11	Other Applicable Requirements
112.8(b)	5.1	Facility Drainage
112.8(c)(1)	5.2.1	Construction
112.8(c)(2)	5.2.2	Secondary Containment
112.8(c)(3)	5.2.3	Drainage of Diked Areas
112.8(c)(4)	5.2.4	Corrosion Protection
112.8(c)(5)	5.2.5	Partially Buried and Bunkered Storage Tanks
112.8(c)(6)	4.6.2	Periodic Integrity Testing
	5.2.6	Inspection
	Appendix C	Facility Inspection Checklists
112.8(c)(7)	5.2.7	Heating Coils
112.8(c)(8)	5.2.8	Overfill Prevention System
112.8(c)(9)	5.2.9	Effluent Treatment Facilities
112.8(c)(10)	5.2.10	Visible Discharges
112.8(c)(11)	5.2.11	Mobile and Portable Containers
112.8(d)	5.2.12	Transfer Operations, Pumping, and In-Plant Processes
112.20(e)	Appendix B	Certification of Substantial Harm Determination

1 *Only selected excerpts of relevant rule text are provided. For a complete list of SPCC requirements, refer to the full text of 40 CFR Part 112.*

Self-Certification

for Tier I and Tier II Qualified Facilities

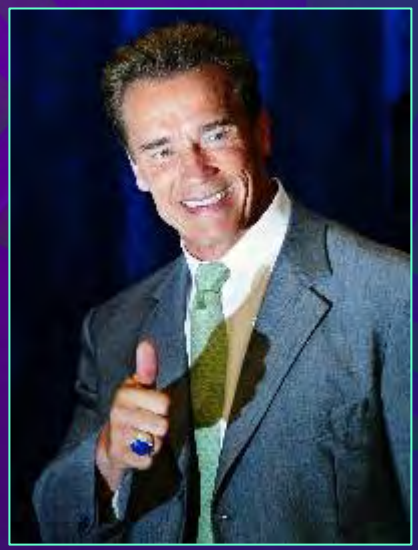
- Owner/operator attests that he/she is familiar with the rule and has visited and examined the facility
- Owner/operator also certifies that:
  - The Plan has been prepared in accordance with accepted and sound industry practices and standards and with the rule requirements
  - Procedures for required inspections and testing have been established in accordance w/ accepted & sound industry practices
  - The Plan is being fully implemented
  - The facility meets the qualifying criteria
  - The Plan does not deviate from rule requirements except as allowed and as certified by a PE
  - Management approves the Plan and has committed resources to implement it

SPCC Plan Certification by PE

for Non Qualified Facilities

- Registered Professional Engineer must certify (attest):
  - **Familiar with SPCC rules**
  - **Visited and examined facility (personally or via agents)**
  - **Plan meets good engineering practice including applicable industry standards**
  - **Procedures for inspection and testing have been established**
  - **Plan is adequate for the facility**
- PE recertification not required for non-technical changes or amendments

Certifications & Management Approval



2.0 CERTIFICATIONS AND APPROVAL

(Non-Qualified Facility)

2.1 PROFESSIONAL ENGINEER CERTIFICATION [§112.3(d)]

I hereby certify that I have visited and examined the facility and, being familiar with the requirements of Title 40 CFR, Part 112 and the California Aboveground Petroleum Storage Act Chapter 6.67, Health and Safety Code Sections 25270 – 25270.13, and this Plan, attest that this Plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards and the requirements of 40 CFR 112, and that procedures for required inspections and testing have been established, and that the Plan is adequate for the facility.

Certifying Engineer: **Steven M. Menkus**
California ChE 3298
Principal Engineer
ESCI EnviroServices, Inc.

Engineering Seal:

Signature: _____

Certification Date: _____

2.2 MANAGEMENT APPROVAL AND COMMITMENT [§112.7]

D[redacted]es will fully implement the procedures outlined in this SPCC Plan and will take the steps necessary to minimize the potential for petroleum releases to navigable waters of the United States. The SPCC Plan has the full approval of management at the level of authority to commit the necessary resources to fully implement the Plan. Per 40 CFR 112.3(e), a copy of this Plan will be maintained at the facility at all times and will be made available to the Regional Administrator for on-site review during normal working hours.

I hereby certify that management of this facility extends its full approval of this SPCC Plan and will commit the necessary resources for implementation.

Name: [redacted]
Title: **Director of Manufacturing**

Signature: _____

Date: _____

Current vs Future SPCC Compliance

- SPCC regs allow for documenting/certifying in the Plan required additional facilities or procedures, methods, or equipment not yet fully operational:
  - Plan must discuss these items in separate paragraphs, and explain separately the details of installation and operational start-up…and include schedules
  - Critical for compliance, liability control, and validity of PE certification to stay on stated schedule.
    - **Anything beyond a minor slip in schedule and/or revision of proposed upgrades requires PE recertification**

Plan Amendments

- SPCC Plan must be revised promptly (w/in 6 mo.) if any change in:

  Design Construction Operation Maintenance

  - …that materially increases or decreases potential for oil discharge into navigable waters

- Most design & construction changes, and additions of equipment/tanks will require a PE review and recertification (or owner cert. if QF)
  - Significant revisions to maintenance frequency or procedures will also… as will major changes in tank or equipment operation or procedures
- *SPCC Plan should be part of a Management of Change process*

Plan Amendments

- Administrative changes or amendments will not need recertification
  - "Non-technical amendments"
- Should also review and amend (if necessary) following all oil spills or releases
- Maximum 5 year review/amendment period

Technical Change Examples

- Commissioning and decommissioning containers or tanks
- Replacement, reconstruction, or movement of containers
- Reconstruction, replacement, or installation of piping systems
- Construction or demolition that might alter secondary containment structures

- Changes in product or service
  - … oil and oil discharge-impacting (impact to navigable waters)
- Revision of operating or maintenance procedures
  - Unless a non-technical change to the procedures or no navigable water impact potential

SPCC Plan Review / Amendment

- Reviews and amendments must be documented in the Plan (log forms are included in the Template [Attachment 1, Tables G-13 & G-14])
  - **Include sufficient detail and traceability**
- Facility must document the completion of the 5-year Plan review/evaluation
  - **Plan/MoC coordination, process owner and stakeholders?**
- Management must sign and include a statement stating whether Plan will be amended or not following the review
  - **If any technical changes, the PE must recertify**

Facility Diagram

- Supplements facility description, which may include facility location, type, size, and proximity to navigable waters, etc.
- Provide enough detail to undertake prevention activities, perform inspections, and take response measures
- Not required or Tier I Qualified Facilities (TIQF)
  - **But a simple one is a good idea**

Facility Diagram

Required elements:

- The location, storage capacity and contents of fixed oil tanks, containers, OFE (≥55 gallons)
  - **Level of detail can vary & can link to a table in the Plan**
- For mobile/portable tanks & containers *(12/08 amendments)*:
  - Estimate the potential #, contents and capacities
  - Indicate the location of mobile/portable container storage areas (not every container or tank)
- Completely buried tanks otherwise exempt
- Connecting piping & transfer stations

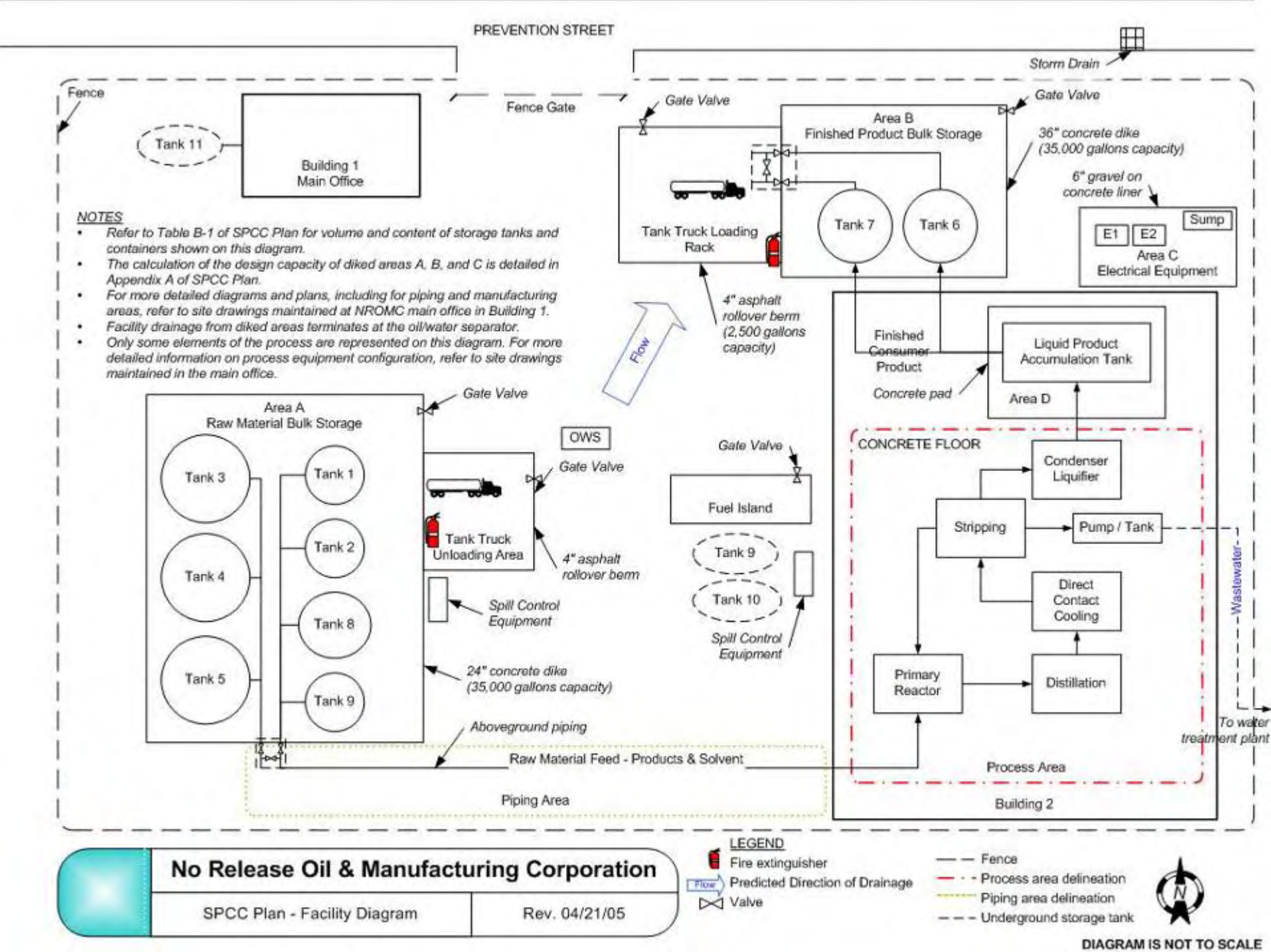
Recommended elements:

- Secondary containment
- Storm drain inlets and surface waters
- Direction of flow in the event of a discharge
- Legend – scale and symbols
- Location of response kits and firefighting equipment
- Location of valves or drainage system controls
- Compass direction
- Topographical information and area maps

Facility Diagram Example

NOTES:
1. FENCING LOCATIONS BASED ON VISUAL OBSERVATIONS CONDUCTED ON 11-20-2007.
2. PHOTO MAY NOT REFLECT CURRENT CONDITIONS.

MARCH 2008
FIGURE A-2
FACILITY DIAGRAM
SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN


PREVENTION STREET
Storm Drain
Fence
Fence Gate
Tank 11
Building 1
Main Office
Gate Valve
Area B
Finished Product Bulk Storage
Gate Valve
36" concrete dike
(35,000 gallons capacity)
6" gravel on
concrete liner
Sump
E1
E2
Area C
Electrical Equipment
Tank Truck Loading
Rack
Tank 7
Tank 6
4" asphalt
rollover berm
(2,500 gallons
capacity)
Flow
Finished
Consumer
Product
Liquid Product
Accumulation Tank
Concrete pad
Area D
NOTES
Refer to Table B-1 of SPCC Plan for volume and content of storage tanks and containers shown on this diagram.
The calculation of the design capacity of diked areas A, B, and C is detailed in Appendix A of SPCC Plan.
For more detailed diagrams and plans, including for piping and manufacturing areas, refer to site drawings maintained at NROMC main office in Building 1.
Facility drainage from diked areas terminates at the oil/water separator.
Only some elements of the process are represented on this diagram. For more detailed information on process equipment configuration, refer to site drawings maintained in the main office.
Area A
Raw Material Bulk Storage
Gate Valve
OWS
Gate Valve
Tank 3
Tank 1
Tank 2
Tank 4
Tank 8
Tank 5
Tank 9
Tank Truck
Unloading Area
4" asphalt
rollover berm
Spill Control
Equipment
24" concrete dike
(35,000 gallons capacity)
Gate Valve
Fuel Island
Tank 9
Tank 10
Spill Control
Equipment
CONCRETE FLOOR
Condenser
Liquifier
Stripping
Pump / Tank
Direct
Contact
Cooling
Primary
Reactor
Distillation
Wastewater
To water
treatment plant
Aboveground piping
Raw Material Feed - Products & Solvent
Process Area
Piping Area
Building 2
No Release Oil & Manufacturing Corporation
SPCC Plan - Facility Diagram
Rev. 04/21/05
LEGEND
Fire extinguisher
Flow
Predicted Direction of Drainage
Valve
Fence
Process area delineation
Piping area delineation
Underground storage tank
N
DIAGRAM IS NOT TO SCALE

Facility Diagram Example

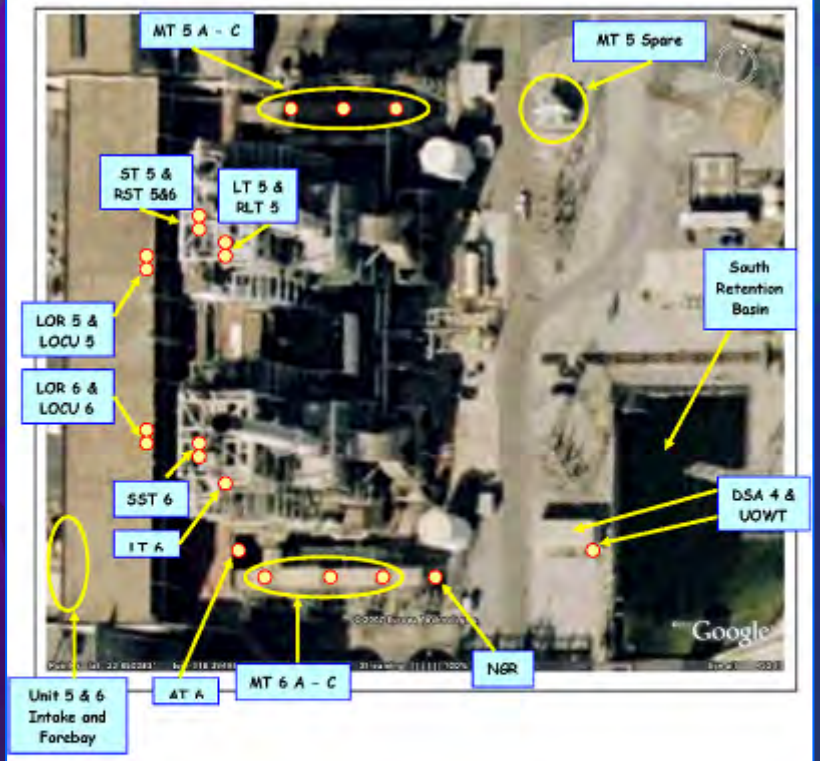


Figure 4
AES Redondo Beach, LLC
Units 5 & 6

Table 5-1: SPCC-Regulated[1] Containers & Equipment

Container or Equipment Type & Location	Oil Type	Oil Storage Capacity (gals)	Discharge/Drainage Controls; Secondary Containment; or Diversionary Means	Location / Comments
Bulk Storage Tanks – Fixed Aboveground				
Lubricating Oil Storage Tanks (OST) 1 through 4 (for Units 1 – 4)	Turbine oil	4,000 each	Single Wall Tanks: Drains to sump then to Retention Basin	Basement area between Units 2 & 3
Lubricating Oil Storage Tank OST-5 (for Unit 5)	Turbine oil	6,000	Single Wall Concrete Tank: Drains to sump then to Retention Basin	Basement area between Units 2 & 3 (west of Lube Oil Storage Tanks 1 – 4)
Lubricating Oil Storage Tanks OST-7 & 8 (for Units 7 & 8)	Turbine oil	15,750	Single Wall Tanks: Drains to yard drains then to Unit 5 & 6 Forebay	South outside of Unit 8 structure
Insulating Oil Tanks for Units 7 & 8 Bifurcators (BT) (two)	Mineral oil	1,250 each	Single wall tanks in cable houses on gravel area, paved area outside of gravel drains to yard drains then to Unit 5 & 6 Forebay	Gravel area east of Units 6 & 7
Used Oil and Water Tank - UOWT	Skimmed oil and water	500	Single wall PVC tank in concrete secondary containment	West of South Retention Basin. Calculated containment capacity = 4,864 gal
Operational Equipment – Fixed Aboveground				
DEH Oil Systems (DEH) 7 & 8	Fyrquel EHC	200 each	In secondary containment. Unit drains lead to Retention Basin	Within Unit 7 & 8 structure (mezzanine outboard of 7 & 8 aux turbines)
Lubricating Oil Storage Reservoirs	Turbine oil	4,200 each	Unit drains lead to Retention Basin	Within Unit 5 & 6 structure

[1] Other oil-filled, but SPCC Plan-exempt equipment operating at the facility includes oil storage in containers less than 55 gallon capacity (exempt per 40 CFR 112.1(d)(2)). Containers and systems over 55 gallon capacity but empty and maintained out-of-service exist at the facility but are not listed in the tables, nor identified on the facility diagrams.

Spill Predictions / Failure Analysis

- Where experience indicates reasonable potential for equipment failure
  - **Tank loading or unloading equipment**
  - **Tank overflow, rupture, or leakage**
  - **Any other equipment known to be a source of a discharge**
- Predict for each type:
  - **Direction**
  - **Rate of flow**
  - **Total quantity of oil which could be discharged**
- Include table /description in SPCC Plan (for TIQF Templates – insert this info on Table G-4)

Spill Predictions/ Failure Analysis

- This analysis becomes important in determining and verifying proper discharge controls
  - **Secondary containment**
    - **Worst case (sized containment)**
    - **Most likely (general containment)**
  - **Spill response**
  - **Can use reasonable assumptions supported by research**

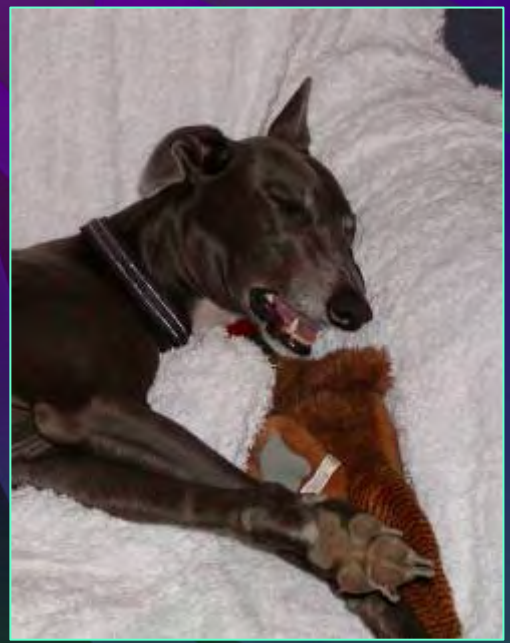
Potential Event	Maximum Potential Release Volume (gallons)	Maximum Potential Discharge Rate	Direction of Flow	Secondary Containment
#3 Oils Conex Box				
Failure of aboveground tank (collapse or puncture below product level)	500	Gradual to instantaneous	N to low spot in yard	Steel secondary containment
Tank overfill	5 to 50	**50 gal/min**	N to low spot in yard	Steel secondary containment, line inspection before use, & spill kit
Loading or unloading line failure	5 to 50	**50 gal/min**	N to low spot in yard	Partial secondary containment, line inspection before use, & spill kit
Fuels Area: Tanks #4 and 5				
Failure of aboveground tank (collapse or puncture below product level)	330 - 550	Gradual to instantaneous	N to drainage ditch on highway	Secondary containment
Tank overfill	5 to 50	**50 gal/min**	N to drainage ditch on highway	Secondary containment
Loading or unloading line failure	5 to 50	**50 gal/min**	N to drainage ditch on highway	Partial secondary containment, line inspection before use, & spill kit
Fuels Area: Tanks #6, 7, and 8				
Failure of aboveground tank (collapse or puncture below product level)	1,000 to 3,000	Gradual to instantaneous	N to drainage ditch on highway	Secondary containment
Tank overfill	5 to 50	**50 gal/min**	N to drainage ditch on highway	Secondary containment, fill procedures & spill kit
Loading or unloading line failure	5 to 50	**50 gal/min**	N to drainage ditch on highway	Partial secondary containment, line inspection before use, & spill kit
Fuel Trucks #9 and 10				
Failure of Tank on truck	55 to 750	Gradual to instantaneous	N to drainage ditch on highway (mobile - variable locations)	Secondary containment on vehicle, spill kits
Tank overfill	5-50	**50 gal/min**	N to drainage ditch on highway (mobile)	Secondary containment on vehicle, spill kits
Loading or unloading line failure	1 to 500	**50 gal/min**	N to drainage ditch on highway (mobile)	Secondary containment on vehicle, line inspection before use & spill kits

Security *(12/08 amendments)*

- Describe in Plan (or Plan Template Table G-6) the methods used to:
  - **Secure & control access to all oil handling, processing & storage areas/equipment**
  - **Secure master flow and drain valves**
  - **Prevent unauthorized access to starter controls**
  - **Secure out of service & loading/unloading connections**
  - **Address appropriateness of security lighting to discourage vandalism and facilitate discharge discovery & response**

Security


Non-Rust Aluminum
Four Paws
SECURITY SIGN
WARNING!
GUARD DOGS
NO TRESPASSING



Overfill Prevention
(non-Tier I Qualified Facilities)

- Must have system(s) or procedure(s) for all bulk tanks & containers to prevent overfills (and describe in the Plan). Allowable methods:
  - **High level alarms**
  - **High liquid level pump cutoff device**
  - **Direct audible or code signal communication between filler and fillee**
  - **Fast response system to determine liquid level, provided someone is present to monitor gauges and filling operations**
  - **And… Must regularly test liquid level sensing devices to ensure proper operation**

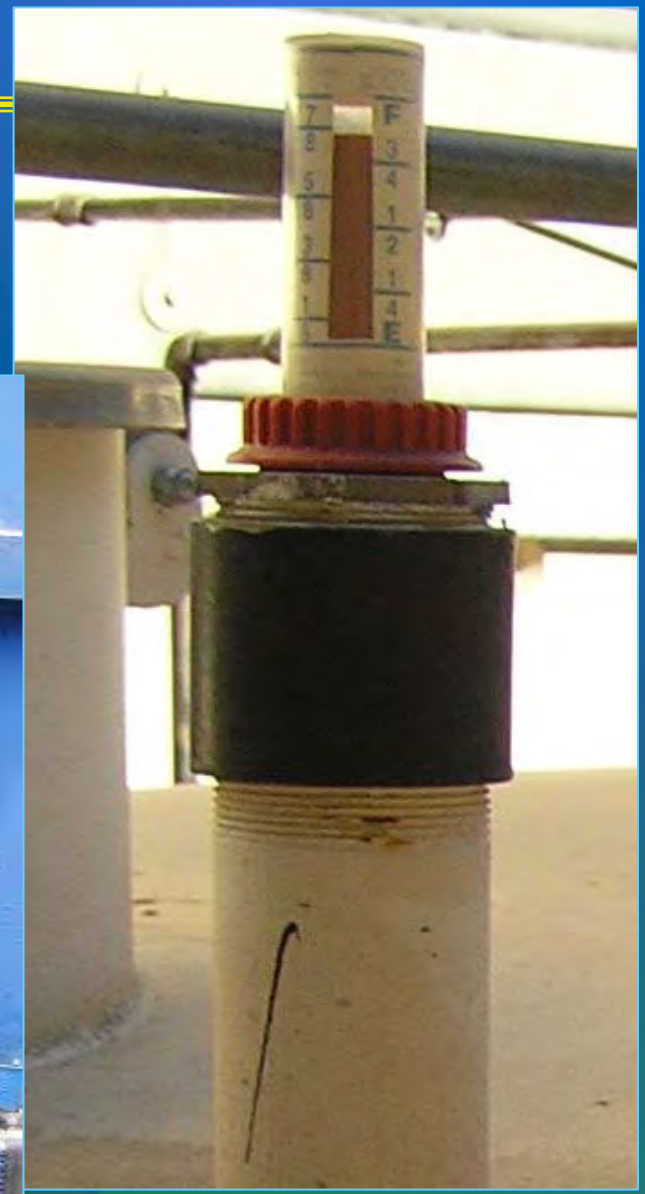
Overfill Prevention
(for Tier I Qualified Facilities)

- Tier I qualified facility requirements more performance oriented than those in 112.8(c)(8)
  - **The requirement does specifically state 'overfill prevention'**
- The Tier I qualified facility must (in lieu of the requirements in 40 CFR 112.8(c)(8):
  - **Ensure that each container is provided with a system or documented procedure to prevent overfills of the container**
  - **Describe the system or procedure in the SPCC Plan**
  - **Regularly test to ensure proper operation or efficacy**
- Table G-10 in the Tier I Plan Template is used to describe the overfill prevention measures

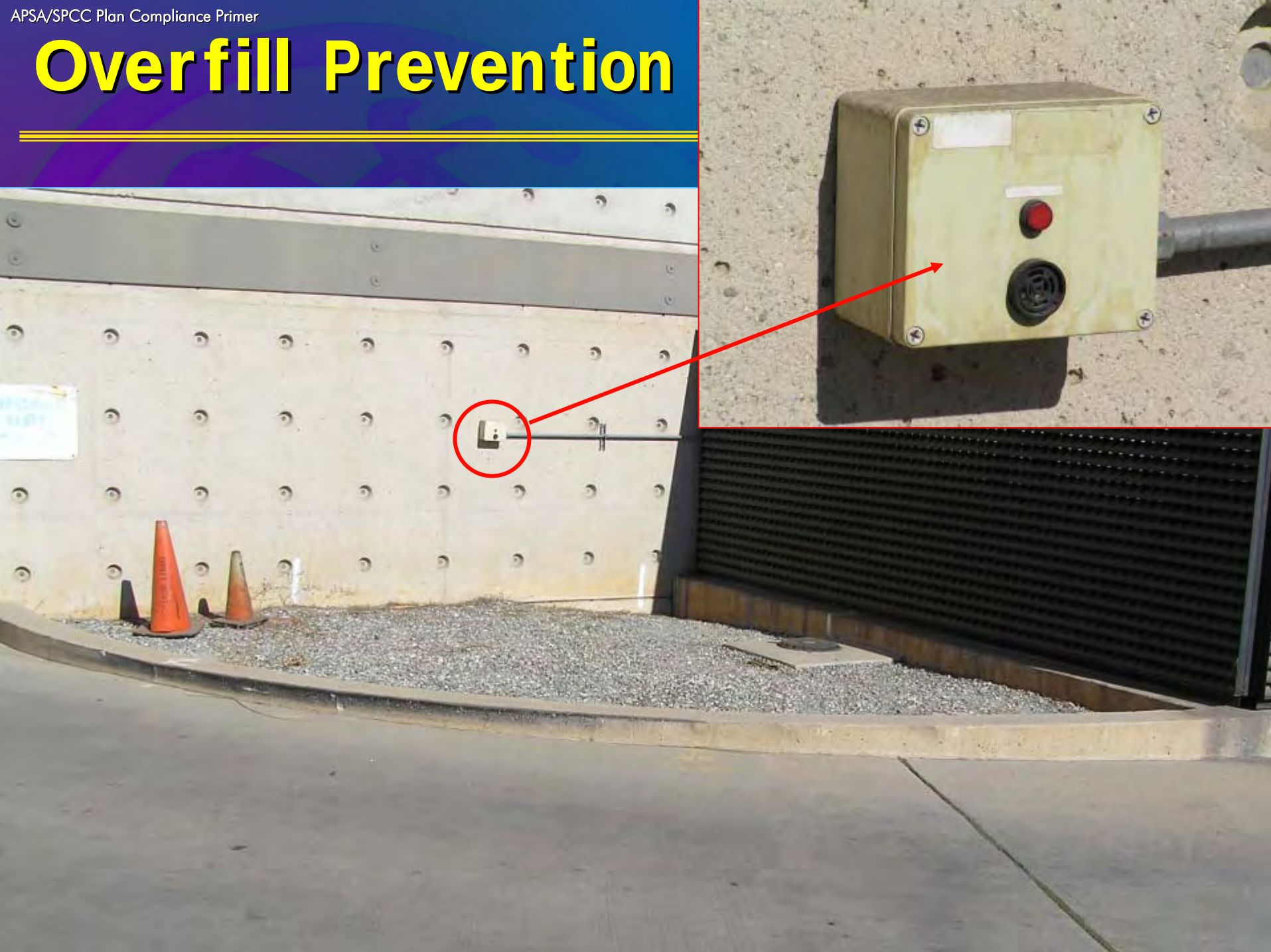
Overfill Prevention

- Testing, calibration, visibility, audibility?

Overfill Prevention

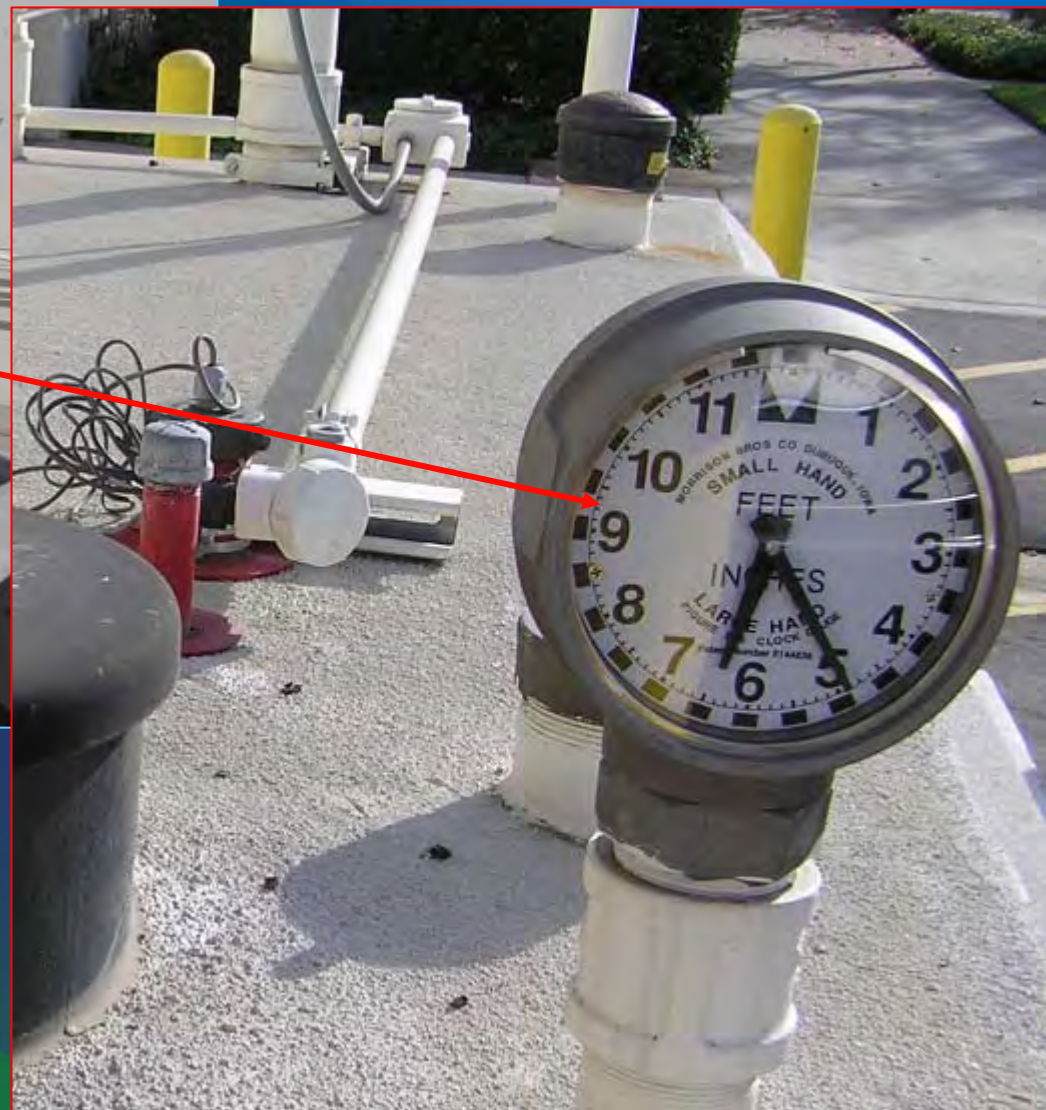


Overfill Prevention




NO SMOKING
STOP ENGINE
GASOLINE

Overfill Prevention



- 6′ 5″ liquid level ??

Overfill Prevention Alternative Measures

(Environmental Equivalence – only if approved/certified by a PE)

- Filling procedure for small containers that involves placing a drain cover over floor drain, or ensuring that valves used to control drainage are closed
- Deploying sorbent material around the area, verifying that container has sufficient free capacity, and
- Visually monitoring the product level throughout the transfer operation.

- PE can determine & certify that other (more flexible) measures are "environmentally equivalent"
  - Procedure must be adequate based on a wide range of factors

Overfill Prevention

Visible Discharge Correction

- Owners or operators must promptly correct visible discharges which result in a loss of oil from the container (40 CFR 112.8(c)(10))

  - **Includes (but is not limited to) seams, gaskets, piping, pumps, valves, rivets, and bolts**
  - **Any accumulations of oil in diked areas must be promptly removed**


PRODUCT FILL
LEVEL
GE
14
16"


WASTE OIL
HAZARDOUS WASTE
DANGER LIQUID TOXIC


DIESEL
DIESEL

ESCI ENVIROSERVICES, INC.

Facility Transfer and Piping Systems

- Properly design pipe supports
- Regularly inspect exposed piping
- Warn vehicles entering facility to ensure that they will not endanger aboveground piping or transfer operations
- Cap or blank flange terminal connection at transfer point and mark it as to origin when piping is not in service or is in standby service for extended time
- Protect buried pipe from corrosion