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ENVIRONMENTAL SERVICES

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ENVIRONMENTAL SERVICES

Air Quality

Waste Management

Water Quality

Corrective Action

Groundwater Quality

Multi-Media

Water/Process Treatment

Safety/Health/Security

Disaster Recovery

Spill Prevention Controls and Countermeasures (SPCC) Plan

40 CFR 112.9 – Onshore Oil Production Facilities

40 CFR 112.10 – Onshore Oil Drilling and
Workover Facilities

Presented by Eagle Environmental Services, Inc.

SPCC Applicability

- Facilities that
 - Drill, produce, store, process, refine, transfer, distribute, use, or consume oil or oil products; and
 - Could reasonably be expected to discharge oil to US navigable waters or adjoining shorelines
- Facilities that meet Oil Storage Threshold
 - Aboveground oil storage capacity $> 1,320$ gals; or
 - Completely buried oil storage capacity $> 42,000$ gals

General SPCC Overview

- Design and operate the facility to prevent spills and prevent materials from going off site
 - Prevent discharge through:
 - Identification of potential failures
 - Preventative measures
 - Appropriately designed structures and equipment
 - Inspection and testing procedures
 - Attention to site considerations including topography and proximity to receiving waters
- SPCC Plan implemented by November 10, 2011

SPCC Critical Plan Elements [40 CFR 112.7]

- Potential Failure Identification
- Containers and Tanks
- Transfer Operations
- Loading and Unloading
- Facility Drainage
- Response Procedures, Contact List, Clean-up & Disposal Procedures
- Security (excluding oil production facilities)
- Training

General SPCC Key Points

- Training for oil-handling personnel [40 CFR 112.7(f)(1)]
 - Operation/maintenance to prevent discharges
 - Discharge procedure
 - Applicable pollution control laws, rules, and regulations
 - General facility operations
 - Contents of SPCC Plan
- Personnel Briefings (frequent intervals) [40 CFR 112.7(f)(3)]
 - Known discharges or failures
 - Malfunctioning components
 - Recently developed precautionary measures
- Record Retention (3 years)

Professional Engineer (PE) Certification

- PE Certification not required for Qualified Facilities [40 CFR 112.6]
- Qualified Facilities can “self certify”
- Qualified Facilities, Tier I or Tier II [40 CFR 112.3(g)]
 - Tier I
 - No individual aboveground oil storage container with capacity greater than 5,000 gals
 - Tier II
 - Aggregate aboveground oil storage capacity $\leq 10,000$ gals
 - No discharge exceeding 1,000 gals or not 2 discharges each exceeding 42 gals (1bbls) within any 12 month period in previous 3 years

Onshore Oil Production Facilities

- Comply with 112.7, General Requirements for SPCC Plan
- Also, meet specific discharge prevention and containment requirements of 112.9



November 2009 Amendments

- Oil Production Facilities
 - Modifies definition of production facility
 - Extends timeframe for facilities to implement SPCC Plan (November 10, 2011)
 - Provides alternative option for flow-through process vessels to comply with secondary containment requirement and additional oil spill prevention measures in lieu of sized secondary containment requirements
 - Exempts certain intra-facility gathering lines subject to U.S. Department of Transportation's (DOT's) pipeline regulations

Nov 2009 Amendments cont'd

- Optional exemption from containment requirements for flowlines/intra-facility gathering lines
 - Maintenance program and contingency planning;
- Produced water container
 - Alternative to general secondary containment requirements
 - Process or procedure certified by a PE to remove free-phase oil from water surface
 - Additional oil spill prevention measures
- Clarifies definition of “permanently closed.”

Onshore Oil Production Facility

Drainage [40 CFR 112.9(b)]

- Containment drains must remain closed except when draining uncontaminated stormwater
 - Inspect for sheen prior to discharge
 - If oil has accumulated, remove prior to drainage
 - Document each discharge of stormwater
 - Close drains upon completion
- Inspect field drainage systems (ditches, oil traps, sumps, skimmers, etc.) for accumulation of oil
 - Regularly scheduled intervals
 - Remove accumulated oil

Onshore Oil Production Facility

Secondary Containment [40 CFR 112.9(c)(2)]

- Required for all tank battery, separation and treating facility installations
 - Designed for entire capacity of largest container and freeboard for precipitation
- Drainage from undiked areas must drain to a catchment basin/holding pond
- Exception – If requirements (i.e., secondary containment) are impracticable:
 - Unmanned facilities may need to determine how to effectively implement a contingency plan
 - May involve additional site inspections or another method determined by a Professional Engineer

Onshore Oil Production Facility

Inspections or Testing [40 CFR 112.9(c)(3)]

- Required for all tank battery, separation and treating facility installations
- Periodically and upon regular schedule
- Visual inspections:
 - Check for deterioration and general maintenance
 - Include foundation, supports, and other aboveground appurtenances
 - Document and maintain for three years

Onshore Oil Production Facility

Tank Overfill Protection [40 CFR 112.9(c)(4)]

- Tank Battery Installations
 - Engineer or update in accordance with good engineering practice to prevent discharges
 - Provide at least one of the following:
 - Sufficient container capacity to ensure no overfill will occur in event of delayed pumper/gauger
 - Overflow equalizing lines between containers
 - Vacuum protection to prevent container collapse
 - High level sensors (if facility has a computer production control system)

Onshore Oil Production Facility Oil/Water Separators

- Not considered wastewater treatment at a production facility
 - Purpose is to remove water from oil, not oil from water
 - Not exempt from SPCC regulations like other oil/water separators utilized for wastewater treatment

Onshore Oil Production Facility Flow-through Process Vessels [40 CFR 112.9(c)(5)]

- **Recent Revision** – alternative to secondary containment
- Alternate requirements:
 - Periodically (regular schedule) inspect and/or test
 - Document Inspections [40 CFR 112.7(c)]
 - Corrective action or repairs
 - Promptly address accumulations of oil discharges
- Not applicable if the following occur at the facility:
 - Discharge $>1,000$ gallons (single discharge) from vessel
 - Two or more discharges of >42 gal (1 bbl) from vessel in 12 month period

Onshore Oil Production Facility Transfer Operations [40 CFR 112.9(d)]

- Inspect aboveground valves and piping
- Inspect saltwater disposal facilities often to detect upsets
- Instead of secondary containment for flowlines/intra-facility gathering lines, facility may implement:
 - Contingency Plan
 - Commitment of manpower, equipment, and materials
- Implement a written program for flowline/intra-facility maintenance
- Document Inspections [40 CFR 112.7(e)]

Onshore Oil Drilling and Workover Facilities

- Must comply with general SPCC Plan requirements in 40 CFR 112.7
- Meet the specific discharge prevention and containment procedures in 40 CFR 112.10(a)



Onshore Oil Drilling and Workover Facilities

- Position mobile drilling/workover equipment to prevent discharge[40 CFR 112.10(b)]
- Provide catchment basins/diversion structures to intercept/contain discharges[40 CFR 112.10(c)]
 - No specific sizing or freeboard requirement
 - Accepted Practice: containment capacity of 110% of volume of largest container
- Install blowout prevention assembly and well control system before drilling below any casing string or during workover operations [40 CFR 112.10(d)]

Review

- SPCC Plan implemented by November 10, 2011
- General SPCC Plan requirements – 40 CFR 112.7
- Onshore Production Facilities – 40 CFR 112.9
- Onshore Oil Drilling and Workover Facilities – 40 CFR 112.10
- Personnel Training/Briefings
- Inspections
- Records



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Texas Air Regulations

**Texas Commission on Environmental Quality (TCEQ)
Oil and Gas Air Permitting**

Presented by Eagle Environmental Services, Inc.

Permitting Options

- Meet **DeMinimus** criteria – no permit required (30 TAC Chapter 116.119.)
- Satisfy conditions for **Permit by Rule**
- Register for **Standard Permit**
- Obtain **New Source Review Permit**

Permit-by-Rule for Oil and Gas (30 TAC Subchapter 0)

- Oil and Gas Handling and Production Facilities (30 TAC Chapter 106.352)
- Temporary Oil and Gas Facilities (30 TAC Chapter 106.353)
- Iron Sponge Gas Treating Unit (30 TAC Chapter 106.354)
- Pipeline Metering Purging and Maintenance (30 TAC Chapter 106.355)
- Petroleum Salt Water Disposal (30 TAC Chapter 106.351)

Permit-by-Rule

- General Requirements for permit-by-rule
 - Emissions
 - <250 TPY CO or NOX
 - < 25 TPY VOC or SO2 or PM
 - < 10 TPY PM2.5
 - < 25 TPY other air contaminants
 - Recordkeeping to demonstrate compliance (30 TAC Chapter 106.8)
 - Not Subject to PSD/NSR

Permit-by-Rule

- Oil and Gas Handling and Production Facilities (30 TAC Chapter 106.352)
- Applies to new and modified facilities
- Requirements
 - Compressors (30 TAC Chapter 106.492)
 - Flares (30 TAC Chapter 106.512)
 - $H_2S < 4 \text{ lb/hr}$ - and specific limits depending on stack height
 - Must register if handling sour gas
- More stringent requirements **adopted 1/26/11** for applicability to Barnett Shale Region.

Standard Permit

- Installation and/or Modification of Oil and Gas facilities (30 TAC Chapter 116.620)
- Applies to new projects and dependent facilities in areas other than Barnett Shale Region
- Specifies requirements for vents, flares, turbines, dehy units, storage tanks, fugitives, etc.

Standard Permit (Issued 1/26/11)

- Non-rule Standard Permit for Oil and Gas Handling and Production
- More stringent than standard permit for Texas
- Applies to new projects and dependent facilities in Barnett Shale Region
- Specifies Best Management Practices (BMP) and Best Available Control Technology (BACT) for Engines, Turbines, Ponds, Storage Tanks, Fugitives, Flares, Vapor Recovery Systems and other control devices.
- Specifies Emission Limitations
- Requires Quantification of Maintenance Startup and Shutdown (MSS) emissions

Other Regulations

- Visible Emissions and Particulate Matter (30 TAC CH 111)- may apply to facilities with a combustion source
- Sulfur Compounds (30 TAC Ch 112) – may apply to sour sites
- VOC sources (30 TAC Ch 115) may apply to facilities in ozone non-attainment areas (Houston, Beaumont, Dallas)
- Nitrogen Compounds (30 TAC Ch 117) may apply to facilities in ozone non-attainment areas (Houston, Beaumont, Dallas)



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